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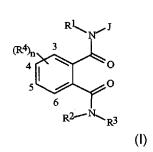
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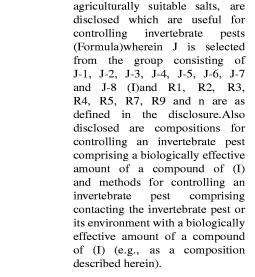
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of (I), and their N-oxides and

Compounds

#### (54) Title: SUBSTITUTED HETEROCYCLIC PHTHALIC ACID DIAMIDE ARTHROPODICIDES



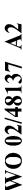


(II)

J-8

(57) Abstract:







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## SUBSTITUTED HETEROCYCLIC PHTHALIC ACID DIAMIDE ARTHROPODICIDES

#### **BACKGROUND OF THE INVENTION**

This invention relates to certain heterocyclic phthalic acid diamides, their *N*-oxides, agriculturally suitable salts and compositions, and methods of their use as arthropodicides in both agronomic and nonagronomic environments.

The control of invetebrate pests is extremely important in achieving high crop efficiency. Damage by invertebrate pests to growing and stored agronomic crops can cause significant reduction in productivity and thereby result in increased costs to the consumer. The control of invertebrate pests in forestry, greenhouse crops, ornamentals, nursery crops, stored food and fiber products, livestock, household, and public and animal health is also important. Many products are commercially available for these purposes, but the need continues for new compounds that are more effective, less costly, less toxic, environmentally safer or have different modes of action.

EP919542 discloses phthalic acid diamides of Formula i as insecticides

$$\begin{array}{c|c} & & & \\ & & & \\ Y_m & & & \\ & & \\ & &$$

wherein, inter alia,

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 $Z^1$  and  $Z^2$  are O or S: and

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are, among others, H, alkyl or substituted alkyl.

WO01/02354 discloses phthalic acid diamides of Formula ii as insecticides

$$X_{\overline{n}}$$
 $N(R^1)R^2$ 
 $N(R^3)Q$ 

wherein, inter alia,

Q is an optionally substituted heterocycle containing O, S or N;

 $Z^1$  and  $Z^2$  are O or S; and

 $R^1$ ,  $R^2$  and  $R^3$  are, among others, H, alkyl or substituted alkyl.

#### SUMMARY OF THE INVENTION

This invention pertains to compounds of Formula I and N-oxides and agriculturally suitable salts thereof

#### 5 wherein

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J is selected from the group consisting of J-1, J-2, J-3, J-4, J-5, J-6, J-7 and J-8

 $\mathbb{R}^1$  is H,  $\mathbb{C}_1$ - $\mathbb{C}_6$  alkyl,  $\mathbb{C}_2$ - $\mathbb{C}_6$  alkoxycarbonyl or  $\mathbb{C}_2$ - $\mathbb{C}_6$  alkylcarbonyl;

 $R^2$  is H or  $C_1$ - $C_6$  alkyl;

 $R^3$  is H;  $C_1$ - $C_6$  alkyl,  $C_2$ - $C_6$  alkenyl,  $C_2$ - $C_6$  alkynyl,  $C_3$ - $C_6$  cycloalkyl, or  $C_4$ - $C_8$  cycloalkylalkyl, each optionally substituted with one or more substituents selected from the group consisting of halogen, CN, NO<sub>2</sub>, hydroxy,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy,  $C_1$ - $C_4$  alkylthio,  $C_1$ - $C_4$  alkylsulfinyl,  $C_1$ - $C_4$  alkylsulfonyl,  $C_2$ - $C_6$  alkoxycarbonyl or  $C_2$ - $C_6$  alkylcarbonyl;

one  $R^4$  group is attached to the phenyl ring at the 3-position or 6-position, and said  $R^4$  is  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  haloalkyl, halogen, CN, NO<sub>2</sub>,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$ 

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haloalkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, C<sub>1</sub>-C<sub>4</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> haloalkylthio, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfinyl, or C<sub>1</sub>-C<sub>4</sub> haloalkylsulfonyl; and an optional second R<sup>4</sup> is H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>6</sub> haloalkyl, C<sub>2</sub>-C<sub>6</sub> haloalkenyl, C<sub>2</sub>-C<sub>6</sub> haloalkynyl, C<sub>3</sub>-C<sub>6</sub> halocycloalkyl, halogen, CN, NO<sub>2</sub>, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> haloalkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, C<sub>1</sub>-C<sub>4</sub> alkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> haloalkylthio, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfinyl, C<sub>1</sub>-C<sub>4</sub> haloalkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylamino, C<sub>2</sub>-C<sub>8</sub> dialkylamino, C<sub>3</sub>-C<sub>6</sub> cycloalkylamino, C<sub>1</sub>-C<sub>4</sub> alkoxyalkyl, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C(O)R<sup>10</sup>, CO<sub>2</sub>R<sup>10</sup>, C(O)NR<sup>10</sup>R<sup>11</sup>, NR<sup>10</sup>R<sup>11</sup>, N(R<sup>11</sup>)COR<sup>10</sup>, N(R<sup>11</sup>)CO<sub>2</sub>R<sup>10</sup> or C<sub>3</sub>-C<sub>6</sub> trialkylsilyl;

 $R^5$  is H,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  haloalkyl, or

V is N, CH, CF, CCl, CBr or CI;

each  $R^6$  and  $R^7$  is independently H,  $C_1$ - $C_6$  alkyl,  $C_3$ - $C_6$  cycloalkyl,  $C_1$ - $C_6$  haloalkyl, halogen, CN,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy or  $C_1$ - $C_4$  haloalkylthio;  $R^9$  is H,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  haloalkyl,  $C_3$ - $C_6$  alkenyl,  $C_3$ - $C_6$  haloalkynyl or  $C_3$ - $C_6$  haloalkynyl; provided  $R^7$  and  $R^9$  are not both H;  $R^{10}$  is H or  $C_1$ - $C_4$  alkyl or  $C_1$ - $C_4$  haloalkyl;

 $R^{11}$  is H or  $C_1$ – $C_4$  alkyl; and

20 n is 1 or 2.

This invention also pertains to a composition for controlling an invertebrate pest comprising a biologically effective amount of a compound of Formula I and at least one additional component selected from the group consisting of surfactants, solid diluents and liquid diluents. This invention also pertains to a composition comprising a biologically effective amount of a compound of Formula I and an effective amount of at least one additional biologically active compound or agent.

This invention also pertains to a method for controlling an invertebrate pest comprising contacting the invertebrate pest or its environment with a biologically effective amount of a compound of Formula I (e.g., as a composition described herein). This invention also relates to such method wherein the invertebrate pest or its environment is contacted with a biologically effective amount of a compound of Formula I or a composition comprising a compound of Formula I and a biologically effective amount of at least one additional compound or agent for controlling invertebrate pests.

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#### **DETAILS OF THE INVENTION**

In the above recitations, the term "alkyl", used either alone or in compound words such as "alkylthio" or "haloalkyl" includes straight-chain or branched alkyl, such as methyl, ethyl, n-propyl, i-propyl, or the different butyl, pentyl or hexyl isomers. "Alkenyl" can include straight-chain or branched alkenes such as 1-propenyl, 2-propenyl, and the different 5 butenyl, pentenyl and hexenyl isomers. "Alkenyl" also includes polyenes such as 1,2-propadienyl and 2,4-hexadienyl. "Alkynyl" includes straight-chain or branched alkynes such as 1-propynyl, 2-propynyl and the different butynyl, pentynyl and hexynyl isomers. "Alkynyl" can also include moieties comprised of multiple triple bonds such as 10 2,5-hexadiynyl. "Alkoxy" includes, for example, methoxy, ethoxy, n-propyloxy, isopropyloxy and the different butoxy, pentoxy and hexyloxy isomers. "Alkoxyalkyl" denotes alkoxy substitution on alkyl. Examples of "alkoxyalkyl" include CH<sub>3</sub>OCH<sub>2</sub>, CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>, CH<sub>3</sub>CH<sub>2</sub>OCH<sub>2</sub>, CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub> and CH<sub>3</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>. "Alkylthio" includes branched or straight-chain alkylthio moieties such as methylthio, 15 ethylthio, and the different propylthio, butylthio, pentylthio and hexylthio isomers. "Cycloalkyl" includes, for example, cyclopropyl, cyclobutyl, cyclopentyl and cyclohexyl. "Cycloalkylalkyl" indicates an alkyl group substituted with a cycloalky group and includes, for example, cyclopropylmethyl, cyclobutylethyl, cyclopentylpropyl and cyclohexylmethyl.

The term "heteroaromatic ring" denotes fully aromatic rings in which at least one ring atom is not carbon and can contain 1 to 4 heteroatoms independently selected from the group consisting of nitrogen, oxygen and sulfur, provided that each heteroaromatic ring contains no more than 4 nitrogens, no more than 2 oxygens and no more than 2 sulfurs (where aromatic indicates that the Hückel rule is satisfied). The heteroaromatic ring can be attached through any available carbon or nitrogen by replacement of hydrogen on said carbon or nitrogen.

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The term "halogen", either alone or in compound words such as "haloalkyl", includes fluorine, chlorine, bromine or iodine. Further, when used in compound words such as "haloalkyl", said alkyl may be partially or fully substituted with halogen atoms which may be the same or different. Examples of "haloalkyl" include  $F_3C$ ,  $ClCH_2$ ,  $CF_3CH_2$  and  $CF_3CCl_2$ . The terms "haloalkenyl", "haloalkynyl", "haloalkoxy", and the like, are defined analogously to the term "haloalkyl". Examples of "haloalkenyl" include  $(Cl)_2C=CHCH_2$  and  $CF_3CH_2CH=CHCH_2$ . Examples of "haloalkynyl" include HC=CCHCl,  $CF_3C=C$ ,  $CCl_3C=C$  and  $FCH_2C=CCH_2$ . Examples of "haloalkoxy" include  $CF_3O$ ,  $CCl_3CH_2O$ ,  $HCF_2CH_2O$  and  $CF_3CH_2O$ .

The total number of carbon atoms in a substituent group is indicated by the "C<sub>i</sub>-C<sub>j</sub>" prefix where i and j are numbers from 1 to 6. For example, C<sub>1</sub>-C<sub>3</sub> alkylsulfonyl designates methylsulfonyl through propylsulfonyl; C<sub>2</sub> alkoxyalkyl designates CH<sub>3</sub>OCH<sub>2</sub>; C<sub>3</sub> alkoxyalkyl designates, for example, CH<sub>3</sub>CH(OCH<sub>3</sub>), CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub> or CH<sub>3</sub>CH<sub>2</sub>OCH<sub>2</sub>; and C<sub>4</sub> alkoxyalkyl designates the various isomers of an alkyl group substituted with an

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alkoxy group containing a total of four carbon atoms, examples including  $CH_3CH_2CH_2OCH_2$  and  $CH_3CH_2OCH_2CH_2$ . In the above recitations, when a compound of Formula I contains a heteroaromatic ring, all substituents are attached to this ring through any available carbon or nitrogen by replacement of a hydrogen on said carbon or nitrogen.

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When a group contains a substituent which can be hydrogen, for example R<sup>3</sup>, then, when this substituent is taken as hydrogen, it is recognized that this is equivalent to said group being unsubstituted.

Compounds of this invention can exist as one or more stereoisomers. The various stereoisomers include enantiomers, diastereomers, atropisomers and geometric isomers. One skilled in the art will appreciate that one stereoisomer may be more active and/or may exhibit beneficial effects when enriched relative to the other stereoisomer(s) or when separated from the other stereoisomer(s). Additionally, the skilled artisan knows how to separate, enrich, and/or to selectively prepare said stereoisomers. Accordingly, the compounds of the invention may be present as a mixture of stereoisomers, individual stereoisomers, or as an optically active form.

The present invention comprises of compounds selected from Formula I, N-oxides and agriculturally suitable salts thereof. One skilled in the art will appreciate that not all nitrogen containing heterocycles can form N-oxides since the nitrogen requires an available lone pair for oxidation to the oxide; one skilled in the art will recognize those nitrogen containing heterocycles which can form N-oxides. One skilled in the art will also recognize that tertiary amines can form N-oxides. Synthetic methods for the preparation of N-oxides of heterocycles and tertiary amines are very well known by one skilled in the art including the oxidation of heterocycles and tertiary amines with peroxy acids such as peracetic and m-chloroperbenzoic acid (MCPBA), hydrogen peroxide, alkyl hydroperoxides such as t-butyl hydroperoxide, sodium perborate, and dioxiranes such as dimethydioxirane. These methods for the preparation of N-oxides have been extensively described and reviewed in the literature, see for example: T. L. Gilchrist in Comprehensive Organic Synthesis, vol. 7, pp 748-750, S. V. Ley, Ed., Pergamon Press; M. Tisler and B. Stanovnik in Comprehensive Heterocyclic Chemistry, vol. 3, pp 18-19, A. J. Boulton and A. McKillop, Eds., Pergamon Press; M. R. Grimmett and B. R. T. Keene in Advances in Heterocyclic Chemistry, vol. 43, pp 139-151, A. R. Katritzky, Ed., Academic Press; M. Tisler and B. Stanovnik in Advances in Heterocyclic Chemistry, vol. 9, pp 285-291, A. R. Katritzky and A. J. Boulton, Eds., Academic Press; and G. W. H. Cheeseman and E. S. G. Werstiuk in Advances in Heterocyclic Chemistry, vol. 22, pp 390-392, A. R. Katritzky and A. J. Boulton, Eds., Academic Press.

The salts of the compounds of the invention include acid-addition salts with inorganic or organic acids such as hydrobromic, hydrochloric, nitric, phosphoric, sulfuric,

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acetic, butyric, fumaric, lactic, maleic, malonic, oxalic, propionic, salicylic, tartaric, 4-toluenesulfonic or valeric acids.

Of note are compounds of Formula I wherein R<sup>5</sup> is

The wavy line represents the remainder of the J group to which said R<sup>5</sup> moiety is attached.

Preferred compounds for reasons of better activity, cost and/or ease of synthesis are:

Preferred 1. Compounds of Formula I wherein V is N.

Preferred 2. Compounds of Formula I wherein V is CH, CF, CCl or CBr.

Preferred 3. Compounds of Preferred 1 or Preferred 2 wherein

 $R^1$  and  $R^2$  are both H;

 $R^3$  is  $C_1$ - $C_4$  alkyl optionally substituted with halogen, CN, OCH<sub>3</sub>, S(O)<sub>p</sub>CH<sub>3</sub>; one  $R^4$  group is attached to the phenyl ring at the 3-position and said  $R^4$  is

CH<sub>3</sub>, CF<sub>3</sub>, OCF<sub>3</sub>, OCHF<sub>2</sub>, S(O)<sub>p</sub>CF<sub>3</sub>, S(O)<sub>p</sub>CHF<sub>2</sub>, CN or halogen;

a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;

 $R^6$  is  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  haloalkyl, halogen or CN;

R<sup>7</sup> is H, CH<sub>3</sub>, CF<sub>3</sub>, OCHF<sub>2</sub> or halogen; and

p is 0, 1 or 2.

Preferred 4. Compounds of Preferred 3 wherein

20 J is J-1;

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 $\mathbb{R}^3$  is  $\mathbb{C}_1$ - $\mathbb{C}_4$  alkyl;

one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is CH<sub>3</sub>, Cl, Br or I;

a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;

 $R^6$  is Cl or Br; and

R<sup>7</sup> is halogen or CF<sub>3</sub>.

Preferred 5. Compounds of Preferred 4 wherein

V is N;

R<sup>3</sup> is methyl, ethyl, isopropyl or tertiary butyl;

one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is CH<sub>3</sub> or I;

R<sup>6</sup> is Cl or Br; and

 $\mathbb{R}^7$  is Br, C1 or CF<sub>3</sub>.

Preferred 6. Compounds of Preferred 3 wherein

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J is J-2;
                                \mathbb{R}^3 is \mathbb{C}_1-\mathbb{C}_4 alkyl;
                               one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is
                                        CH<sub>3</sub>, Cl, Br or I;
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                                a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
                               R<sup>6</sup> is Cl or Br; and
                               R<sup>9</sup> is CF<sub>3</sub>, CHF<sub>2</sub>, CH<sub>2</sub>CF<sub>3</sub>, CF<sub>2</sub>CHF<sub>2</sub>.
                Preferred 7. Compounds of Preferred 3 wherein
                               J is J-3;
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                               R^3 is C_1-C_4 alkyl;
                                one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is
                                        CH<sub>3</sub>, Cl, Br or I;
                                a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
                               R<sup>6</sup> is Cl or Br; and
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                               R<sup>7</sup> is halogen or CF<sub>3</sub>.
                Preferred 8. Compounds of Preferred 3 wherein
                               J is J-4;
                               \mathbb{R}^3 is \mathbb{C}_1-\mathbb{C}_4 alkyl;
                                one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is
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                                        CH<sub>3</sub>, Cl, Br or I;
                               a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
                               R<sup>6</sup> is Cl or Br; and
                               R<sup>7</sup> is CF<sub>3</sub>.
                Preferred 9. Compounds of Preferred 3 wherein
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                               J is J-5:
                               R^3 is C_1-C_4 alkyl;
                               one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is
                                        CH<sub>3</sub>, Cl, Br or I;
                               a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
                               R<sup>6</sup> is Cl or Br; and
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                               R<sup>9</sup> is CF<sub>3</sub>, CHF<sub>2</sub>, CH<sub>2</sub>CF<sub>3</sub>, CF<sub>2</sub>CHF<sub>2</sub>.
                Preferred 10. Compounds of Preferred 3 wherein
                               J is J-6;
                               R^3 is C_1-C_4 alkyl;
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                               one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is
                                        CH<sub>3</sub>, Cl, Br or I;
                               a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
                               R<sup>6</sup> is Cl or Br; and
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R<sup>7</sup> is halogen or CF<sub>3</sub>. Preferred 11. Compounds of Preferred 3 wherein J is J-7;  $\mathbb{R}^3$  is  $\mathbb{C}_1$ - $\mathbb{C}_4$  alkyl; one R<sup>4</sup> group is attached to the K-ring at the 2-position and said R<sup>4</sup> is CH<sub>3</sub>, Cl 5 a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>; R<sup>6</sup> is Cl or Br: R<sup>7</sup> is H, halogen or CF<sub>3</sub>.and R<sup>9</sup> is H, CF<sub>3</sub>, CHF<sub>2</sub>, CH<sub>2</sub>CF<sub>3</sub>, CF<sub>2</sub>CHF<sub>2</sub>. 10 Preferred 12. Compounds of Preferred 3 wherein J is J-8:  $\mathbb{R}^3$  is  $\mathbb{C}_1$ - $\mathbb{C}_4$  alkyl; one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is 15 CH3, Cl, Br or I; a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>; R<sup>6</sup> is Cl or Br; R<sup>7</sup> is H, halogen or CF<sub>3</sub> and R<sup>9</sup> is H, CF<sub>3</sub>, CHF<sub>2</sub>, CH<sub>2</sub>CF<sub>3</sub>, CF<sub>2</sub>CHF<sub>2</sub>. Specifically preferred are compounds selected from the group consisting of: 20  $N^{1}$ -[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-3-methyl- $N^{2}$ -(1methylethyl)-1,2-benzenedicarboxamide,  $N^{I}$ -[1-(3-bromo-1-(3-chloro-2-pyridinyl)-1*H*-pyrazol-5-yl]-3-methyl- $N^{2}$ -(1methylethyl)-1,2-benzenedicarboxamide, 25  $N^{I}$ -[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-3-iodo- $N^{2}$ -(1methylethyl)-1,2-benzenedicarboxamide, and  $N^{I}$ -[1-(3-bromo-1-(3-chloro-2-pyridinyl)-1*H*-pyrazol-5-yl]-3-iodo- $N^{2}$ -(1methylethyl)-1,2-benzenedicarboxamide.

The preferred compositions of the present invention are those that comprise the above preferred compounds.

The preferred methods of use are those involving the above preferred compounds.

Of note are compounds of Formula 1d and N-oxides and agriculturally suitable salts thereof

1d

#### wherein

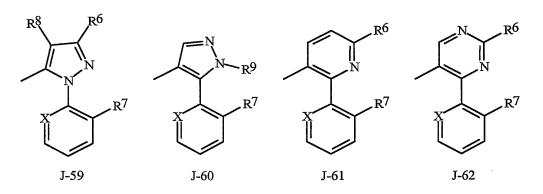
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J is selected from the group consisting of



 $R^1$  is H,  $C_1$ - $C_6$  alkyl,  $C_2$ - $C_6$  alkoxycarbonyl or  $C_2$ - $C_6$  alkylcarbonyl;  $R^2$  is H or  $C_1$ - $C_6$  alkyl;

R³ is H; C¹-C6 alkyl, C²-C6 alkenyl, C²-C6 alkynyl, or C³-C6 cycloalkyl, each optionally substituted with one or more substituents selected from the group consisting of halogen, CN, NO², hydroxy, C¹-C4 alkyl, C¹-C4 alkoxy, C¹-C4 haloalkoxy, C¹-C4 alkylthio, C¹-C4 alkylsulfinyl, C¹-C4 alkylsulfonyl, C²-C6 alkoxycarbonyl, C²-C6 alkylcarbonyl, C³-C6 trialkylsilyl, or a phenyl, phenoxy or 5- or 6-membered heteroaromatic ring, each ring optionally substituted with one to three substituents independently selected from the group consisting of C¹-C4 alkyl, C²-C4 alkenyl, C²-C4 alkynyl, C³-C6 cycloalkyl, C¹-C4 haloalkyl, C²-C4 haloalkyl, C²-C4 haloalkynyl, C³-C6 halocycloalkyl, halogen, CN, NO², C¹-C4 alkoxy, C¹-C4 haloalkoxy, C¹-C4 alkylthio, C¹-C4 alkylsulfinyl, C¹-C4 alkylsulfonyl, C¹-C4 alkylamino, C²-C8 dialkylamino, C³-C6 cycloalkylamino, C4-C8 (alkyl)cycloalkylamino, C²-C4 alkylaminocarbonyl, C²-C6 alkoxycarbonyl, C²-C6 alkoxycarbonyl, C³-C6 dialkylamino; C³-C6 cycloalkylamino; C³-C6 alkoxycarbonyl or C³-C6 alkylamino; C³-C6

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each R<sup>4</sup> is independently H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>3</sub>-C<sub>6</sub>
                           cycloalkyl, C<sub>1</sub>-C<sub>6</sub> haloalkyl, C<sub>1</sub>-C<sub>4</sub> alkoxyalkyl, CN, halogen, C<sub>1</sub>-C<sub>4</sub> alkoxy,
                           C_1–C_4 haloalkoxy, S(O)_nR^{12}, C_1–C_4 hydroxyalkyl, C(O)R^{10}, CHO, CO_2R^{10},
                           C(O)NR^{10}R^{11}, NO_2, NR^{10}R^{11} or N(R^{11})CO_2R^{10};
 5
                    each R<sup>6</sup> is independently C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> haloalkyl, halogen, CN, C<sub>1</sub>-C<sub>4</sub> alkoxy,
                           C<sub>1</sub>-C<sub>4</sub> haloalkoxy or C<sub>1</sub>-C<sub>4</sub> haloalkylthio;
                    R<sup>7</sup> is C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, C<sub>2</sub>-C<sub>4</sub> alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>4</sub> haloalkyl,
                           C2-C4 haloalkenyl, C2-C4 haloalkynyl, C3-C6 halocycloalkyl, halogen, CN,
                           NO<sub>2</sub>, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> haloalkoxy, C<sub>1</sub>-C<sub>4</sub> alkylthio, C<sub>1</sub>-C<sub>4</sub> alkylsulfinyl, C<sub>1</sub>-
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                           C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylamino, C<sub>2</sub>-C<sub>8</sub> dialkylamino, C<sub>3</sub>-C<sub>6</sub>
                           cycloalkylamino, C<sub>3</sub>-C<sub>6</sub> (alkyl)cycloalkylamino, C<sub>2</sub>-C<sub>4</sub> alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub>
                            alkoxycarbonyl, C<sub>2</sub>-C<sub>6</sub> alkylaminocarbonyl, C<sub>3</sub>-C<sub>8</sub> dialkylaminocarbonyl or C<sub>3</sub>-
                           C<sub>6</sub> trialkylsilyl;
                    R^8 is H, C_1–C_6 alkyl, C_1–C_6 haloalkyl, halogen, C_1–C_4 alkoxy or C_1–C_4 haloalkoxy;
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                    R<sup>9</sup> is C<sub>2</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> haloalkyl, C<sub>3</sub>-C<sub>6</sub> alkenyl, C<sub>3</sub>-C<sub>6</sub> haloalkenyl, C<sub>3</sub>-C<sub>6</sub> alkynyl
                           or C<sub>3</sub>-C<sub>6</sub> haloalkynyl;
                    R^{10} is H or C_1–C_4 alkyl or C_1–C_4 haloalkyl;
                    R^{11} is H or C_1–C_4 alkyl;
                    R^{12} is C_1-C_4 alkyl or C_1-C_4 haloalkyl;
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                    n is 0, 1 or 2; and
                    X is N, CH, CF, CCl or CBr.
                Of particular note are selected compounds of Formula1d:
                Selection A. Compounds of Formulald wherein X is N.
                Selection B. Compounds of Formulald wherein X is CH, CF, CCl or CBr.
                Selection C. The compounds of Selection A or Selection B wherein
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                                J is J-59;
                                R^1, R^2 and R^8 are all H;
                                R<sup>3</sup> is C<sub>1</sub>-C<sub>4</sub> alkyl optionally substituted with halogen, CN, OCH<sub>3</sub>, S(O)<sub>p</sub>CH<sub>3</sub>;
                                one \mathbb{R}^4 is \mathbb{CH}_3, \mathbb{CF}_3, \mathbb{OCF}_3, \mathbb{OCHF}_2, \mathbb{S}(\mathbb{O})_p\mathbb{CF}_3, \mathbb{S}(\mathbb{O})_p\mathbb{CHF}_2, \mathbb{CN} or halogen;
                                a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
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                                R<sup>6</sup> is CH<sub>3</sub>, CF<sub>3</sub> or halogen; and
                                p is 0, 1 or 2.
                Selection D. Compounds of Selection C wherein
                                R^3 is C_1-C_4 alkyl;
                                one R4 is CH3, Cl or Br;
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                                 a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
                                 R^6 is CF_3; and
                                 R<sup>7</sup> is Cl or Br.
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Selection E. The compounds of Selection A or Selection B wherein
                                J is J-60:
                                R^1 and R^2 are both H;
                                R<sup>3</sup> is C<sub>1</sub>-C<sub>4</sub> alkyl optionally substituted with halogen, CN, OCH<sub>3</sub>, S(O)<sub>p</sub>CH<sub>3</sub>;
 5
                                one R<sup>4</sup> is CH<sub>3</sub>, CF<sub>3</sub>, OCF<sub>3</sub>, OCHF<sub>2</sub>, S(O)<sub>p</sub>CF<sub>3</sub>, S(O)<sub>p</sub>CHF<sub>2</sub>, CN or halogen;
                                a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
                                R^9 is C_2-C_6 alkyl or C_1-C_6 haloalkyl; and
                                p is 0,1 or 2.
                Selection F. Compounds of Selection E wherein
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                                \mathbb{R}^3 is \mathbb{C}_1-\mathbb{C}_4 alkyl;
                                one R4 is CH3, Cl or Br;
                                a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
                                R<sup>9</sup> is CF<sub>3</sub>, CHF<sub>2</sub>, CH<sub>2</sub>CF<sub>3</sub>, CF<sub>2</sub>CHF<sub>2</sub>; and
                                R<sup>7</sup> is Cl or Br.
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                Selection G. The compounds of Selection A or Selection B wherein
                                J is J-61;
                                R^1, R^2 and R^8 are all H;
                                R^3 is C_1-C_4 alkyl optionally substituted with halogen, CN, OCH<sub>3</sub>, S(O)_pCH<sub>3</sub>;
                                one R<sup>4</sup> is CH<sub>3</sub>, CF<sub>3</sub>, OCF<sub>3</sub>, OCHF<sub>2</sub>, S(O)<sub>p</sub>CF<sub>3</sub>, S(O)<sub>p</sub>CHF<sub>2</sub>, CN or halogen;
                                a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
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                                R<sup>6</sup> is CH<sub>3</sub>, CF<sub>3</sub> or halogen; and
                                p is 0, 1 or 2.
                Selection H. Compounds of Selection G wherein
                                R^3 is C_1-C_4 alkyl;
                                one R4 is CH3, Cl or Br;
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                                a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
                                R^6 is CF_3; and
                                R<sup>7</sup> is Cl or Br.
                Selection I. The compounds of Selection A or Selection B wherein
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                                J is J-62;
                                R^1, R^2 and R^8 are all H;
                                R<sup>3</sup> is C<sub>1</sub>-C<sub>4</sub> alkyl optionally substituted with halogen, CN, OCH<sub>3</sub>, S(O)<sub>D</sub>CH<sub>3</sub>;
                                one \mathbb{R}^4 is \mathbb{CH}_3, \mathbb{CF}_3, \mathbb{OCF}_3, \mathbb{OCHF}_2, \mathbb{S}(\mathbb{O})_p\mathbb{CF}_3, \mathbb{S}(\mathbb{O})_p\mathbb{CHF}_2, \mathbb{CN} or halogen;
                                a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;
                                R<sup>6</sup> is CH<sub>3</sub>, CF<sub>3</sub> or halogen; and
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                                p is 0, 1 or 2.
                Selection J. Compounds of Selection I wherein
                                \mathbb{R}^3 is \mathbb{C}_1-\mathbb{C}_4 alkyl;
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one R<sup>4</sup> is CH<sub>3</sub>, Cl or Br; a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>; R<sup>6</sup> is CF<sub>3</sub>; and R<sup>7</sup> is Cl or Br.

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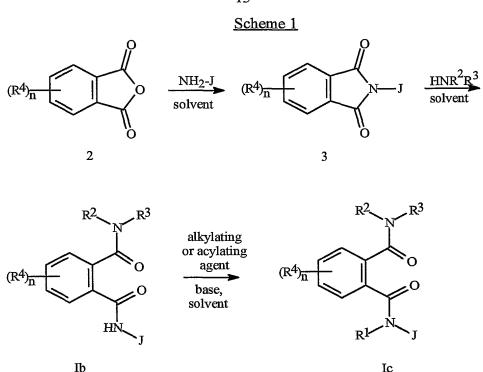
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Also of note are compositions comprising a biologically effective amount of a compound of Formula 1d and at least one additional component selected from the group consisting of surfactants, solid diluents and liquid diluents. Also of note are said compositions further comprising at least one additional biologically active compound or agent. Selected compositions are those comprising the selected compounds above.

Also of note is a method for controlling lepidopteran, homopteran and coleopteran insects comprising contacting the insects or their environment with a biologically effective amount of a compound of Formula 1d, its *N*-oxide or an agriculturally suitable salt thereof. Selected methods are those comprising the selected compounds above.

The compounds of Formula I can be prepared by one or more of the following methods and variations described in Schemes 1 and 2. The definitions of J, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> and n in the compounds of Formulae 1-9 are as defined above in the Summary of the Invention.

Phthalic acid diamides of formula Ib and Ic can be made by the method described in Scheme 1. Heating a phthalic anhydride of formula 2 with an aminoheterocycle of Formula H<sub>2</sub>N-J in an inert solvent such as glacial acetic acid affords a phthalimide of Formula 3. Ring-opening of phthalimide 3 with an amine of the Formula HNR<sup>2</sup>R<sup>3</sup> in an inert solvent 20 such as dioxane or tetrahydrofuran at room temperture or heating at reflux gives a phthalic acid diamide of formula 1b. Alkylation of a compound of formula Ib with a suitable alkylating agent (e.g. an alkyl halide or an alkyl methane- or 4-toluene-sulfonate) or acylating agent (e.g. an alkylchloroformate or acid chloride) in the presence of a base such as sodium hydride or *n*-butyl lithium in an inert solvent such as tetrahydrofuran or 25 N,N-dimethylformamide affords a phthalic acid diamide of formula Ic wherein  $R^1$  is a substituent other than hydrogen. Phthalic anhydrides of Formula 2 can be made by methods taught in J. Org. Chem., 1987, 52, 129, J. Am. Chem. Soc., 1929, 51, 1865, and J. Am. Chem. Soc., 1941, 63, 1542. Aminoheterocycles of formula H<sub>2</sub>N-J can be made by methods as described in Rodd's Chemistry of Organic Compounds: Heterocyclic Compounds, volume 30 IV, parts C, F and IJ (1989), Comprehensive Heterocyclic Chemistry, volumes 2, 3,4,5 and 6 (1984) and Comprehensive Heterocyclic Chemistry II, volumes 3, 4, 5 and 6 (1996).



Another method for making compounds of Formula I is summarized in Scheme 2. Lithiation of a benzamide of Formula 4 with *n*-butyl lithium in an inert solvent such as tetrahydrofuran followed by reaction with a carbamoyl chloride of Formula 5 provides a phthalic acid diamide of Formula I wherein R<sup>1</sup> is other than hydrogen. Reaction of a benzamide of Formula 4 with *n*-butyl lithium in an inert solvent such as tetrahydrofuran followed by reaction with an isocyanate of Formula 6 provides a phthalic acid diamide of Formula I wherein R<sup>1</sup> is hydrogen. Alternatively, lithiation of a benzamide of Formula 7 with *n*-butyl lithium in an inert solvent such as tetrahydrofuran followed by reaction with a carbamoyl chloride chloride of Formula 8 provides a phthalic acid diamide of Formula I wherein R<sup>2</sup> is other than hydrogen. Reaction of a benzamide of Formula 7 with *n*-butyl lithium in an inert solvent such as tetrahydrofuran followed by reaction with an isocyanate of Formula 9 provides a phthalic acid diamide of Formula 1 wherein R<sup>2</sup> is hydrogen.

Benzamides of Formulae 4 and 7 are readily made from the corresponding benzoic acids via a benzoyl chloride intermediate or by direct coupling of a benzoic acid and amine in the presence of a suitable acid/amine coupling agent such as 1,3-dicyclohexylcarbodiimide or 1,1'-carbonyldiimidazole in an inert solvent such as dichloromethane or *N*,*N*-dimethylformamide. Benzoic acids are readily converted to the acid chlorides on treatment with thionyl chloride or oxalyl chloride in an inert solvent such as dichloromethane or toluene. The benzoyl chloride is subsequently coupled with an amine of formula HNR<sup>2</sup> R<sup>3</sup> or HN R<sup>1</sup>J in an inert solvent such as tetrahydrofuran or

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dichloromethane. An additional base such as tertiary amines, pyridine or polymer-bound bases may be used to neutralize the hydrochloric acid produced in the reaction.

#### Scheme 2

$$(\mathbb{R}^{4})_{\overline{n}} \longrightarrow \mathbb{R}^{2} \longrightarrow \mathbb{R}^{3}$$

$$(\mathbb{R}^{4})_{\overline{n}} \longrightarrow \mathbb{R}^{2} \longrightarrow \mathbb{R}^{3}$$

$$(\mathbb{R}^{4})_{\overline{n}} \longrightarrow \mathbb{R}^{1} \longrightarrow \mathbb{R}^{2} \longrightarrow \mathbb{R}^{3}$$

$$(\mathbb{R}^{4})_{\overline{n}} \longrightarrow \mathbb{R}^{2} \longrightarrow \mathbb{R}^{3}$$

$$(\mathbb{R}^{4})_{\overline{n}} \longrightarrow \mathbb{R}^{3}$$

$$(\mathbb{R}$$

It is recognized that some reagents and reaction conditions described above for 5 preparing compounds of Formula I may not be compatible with certain functionalities present in the intermediates. In these instances, the incorporation of protection and deprotection sequences or functional group interconversions into the synthesis will aid in obtaining the desired products. The use and choice of the protecting groups will be apparent to one skilled in chemical synthesis (see, for example, Greene, T. W.; Wuts, P. G. M. Protective Groups in Organic Synthesis, 2nd ed.; Wiley: New York, 1991). One skilled in 10 the art will recognize that, in some cases, after the introduction of a given reagent as it is depicted in any individual scheme, it may be necessary to perform additional routine synthetic steps not described in detail to complete the synthesis of compounds of Formula I. One skilled in the art will also recognize that it may be necessary to perform a combination of the steps illustrated in the above schemes in an order other than that implied by the 15 particular sequence presented to prepare the compounds of Formula I.

One skilled in the art will also recognize that compounds of Formula I and the intermediates described herein can be subjected to various electrophilic, nucleophilic, radical, organometallic, oxidation, and reduction reactions to add substituents or modify existing substituents.

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Without further elaboration, it is believed that one skilled in the art using the preceding description can utilize the present invention to its fullest extent. The following Examples are, therefore, to be construed as merely illustrative and not limiting of the disclosure in any

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1H), 4.8 (q, 2H) ppm.

way whatsoever. Percentages are by weight except for chromatographic solvent mixtures or where otherwise indicated. Parts and percentages for chromatographic solvent mixtures are by volume unless otherwise indicated. <sup>1</sup>H NMR spectra are reported in ppm downfield from tetramethylsilane; s is singlet, d is doublet, t is triplet, q is quartet, m is multiplet, dd is doublet of doublets, dt is doublet of triplets, br s is broad singlet.

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#### **EXAMPLE 1**

### Step A: Preparation of 5-Nitro-2-(2,2,2-trifluoroethoxy)pyridine

To a solution of 2,2,2-trifluoroethanol (5 g, 50 mmol) stirring in 50 mL of tetrahydrofuran, sodium hydride (2 g of ca. 60% oil dispersion, ca. 50 mmol) was added portionwise with foaming and an exotherm. After formation of a solution and stirring at room temperature, 2-chloro-5-nitropyridine (5 g, 32 mmol) was added portionwise, accompanied by an exotherm. After stirring at room temperature overnight, the reaction mixture was partitioned between 100 mL of ethyl acetate and 75 mL of water. The organic layer was separated, washed with brine and dried over magnesium sulfate. Evaporation of solvent *in vacuo* gave an orange oil. A solid was crystallized from hexanes, filtered and dried to give 5 g of 5-nitro-2-(2,2,2-trifluoroethoxy)pyridine (used directly in the next step). <sup>1</sup>H NMR (CDCl<sub>3</sub>): 9.07 (s, 1H), 8.45 (d, 1H), 7.01 (d, 1H), 4.9 (q, 2H) ppm.

## Step B: Preparation of 5-Amino-2-(2,2,2-trifluoroethoxy)pyridine

To a solution of 5 g of 5-nitro-2-(2,2,2-trifluoroethoxy)pyridine in 75 mL of ethyl acetate, 0.5 g of 10% palladium on carbon was added under nitrogen and the mixture was allowed to shake on a paar hydrogenator under hydrogen at 3.1 X 10<sup>5</sup> Pa for 4 hours at room temperature. The reaction mixture was filtered through celite and the celite washed thoroughly with ethyl acetate. Evaporation of solvent *in vacuo* gave a dark oil. A solid was triturated from hexane, filtered and dried to afford 3.3 g of 5-amino-2-(2,2,2-trifluoroethoxy)pyridine, isolated as a crude dark solid.

<sup>1</sup>H NMR (CDCl<sub>3</sub>): 7.60 (s, 1H), 7.05 (d, 1H), 6.70 (d, 1H), 4.65 (q, 2H) 3.44 (br s, NH<sub>2</sub>) ppm.

### Step C: Preparation of 3-iodo-N-(2,2,2-trifluoroethoxy)pyridin-5-yl phthalimide

A stirred solution of 3-iodophthalic anhydride (1.3g, 4.7 mmol) and 5-amino-2-(2,2,2-trifluoroethoxy)pyridine (1.1g, 5.7 mmol) stirring in 15 mL of glacial acetic acid was heated at reflux for 3 hrs. The solvent was removed *in vacuo* and the remaining residue partitioned between 100 mL of ethyl acetate and 75 mL of water. The organic layer was separated, washed with aqueous sodium bicarbonate and brine and dried over magnesium sulfate. Evaporation of solvent *in vacuo* gave a solid residue which was suspended in hexanes and filtered to afford 2 g of 3-iodo-*N*-(2,2,2-trifluoroethoxy)pyridin-5-yl phthalimide, isolated as a crude solid and used directly in the next step.

<sup>1</sup>H NMR (CDCl<sub>3</sub>): 8.3 (s, 1H), 8.2 (d, 1H), 7.95 (d, 1H), 7.75 (d, 1H) 7.5 (t, 1H), 7.01 (d,

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Step D: Preparation of 3-Iodo- $N^2$ -(1-methylethyl)- $N^I$ -[6-(2,2,2-trifluoroethoxy)-3-pyridinyl]-1,2-benzenedicarboxamide and 6-Iodo- $N^2$ -(1-methylethyl)- $N^I$ -[6-(2,2,2-trifluoroethoxy)-3-pyridinyl]-1,2-benzenedicarboxamide

To a stirred solution of 3-iodo-N-(2,2,2-trifluoroethoxy)pyridin-5-yl phthalimide (0.5 g, 1.1 mmol) in 10 mL of 1,4-dioxane, isopropylamine (1.5 g, 25 mmol) was added and the reaction solution heated near reflux overnight. The reaction mixture was partitioned between 100 mL of ethyl acetate and 75 mL of water. The organic layer was separated, washed with water and brine, and dried over magnesium sulfate. Evaporation of solvent *in vacuo* gave a solid residue which was chromatograghed on silica gel to afford 27 mg of 3-iodo- $N^2$ -(1-methylethyl)- $N^I$ -[6-(2,2,2-trifluoroethoxy)-3-pyridinyl]-1,2-benzenedicarboxamide [mp: 220-225 °C;  $^1$ H NMR (DMSO-D<sub>6</sub>):  $\delta$  10.25 (s, 1H), 8.46 (s, 1H), 8.2 (d, 1H), 8.05 (d, 1H), 8.0 (d, 1H), 7.65 (d, 1H), 7.25 (t, 1H), 7.0 (d, 1H), 4.96 (q, 2H), 3.95 (m, 1H), 1.07 (d, 6H)] and 25 mg of 6-iodo- $N^2$ -(1-methylethyl)- $N^I$ -[6-(2,2,2-trifluoroethoxy)-3-pyridinyl]-1,2-benzenedicarboxamide [mp: 200-203 °C;  $^1$ H NMR (DMSO-D<sub>6</sub>):  $\delta$  8.8 (s, 1H), 8.4 (s, 1H), 8.05 (d, 1H), 7.85 (d, 1H), 7.35 (d, 1H), 7.05 (t, 1H), 6.85 (d, 1H), 6.35 (d, 1H), 4.75 (q, 2H), 4.1 (m, 1H), 1.1 (d, 6H)].

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#### **EXAMPLE 2**

# Step A: Preparation of 1-(2-Chlorophenyl)-5-(2-furanyl)-3-(trifluoromethyl)-1*H*-pyrazole

To a solution containing 4,4,4-trifluoro-1-(2-furyl)-1,3- butanedione (30.0 g, 146 mmol) in glacial acetic acid (65 mL) was added sodium acetate (12.1 g, 148 mmol). The mixture was cooled to about 25 °C, 2-chlorophenylhydrazine hydrochloride (25.6 g, 145 mmol) was added portionwise and, following a mild exotherm, the mixture was heated to 60 °C for 4 h, then cooled to 25 °C. The mixture was diluted with dichloromethane (400 mL) and the organic phase was washed with water (3x250 mL), saturated aqueous sodium carbonate (2x250 mL) and brine, then dried over magnesium sulfate and evaporated under reduced pressure to yield 43.2 g of the title compound as a brown oil. <sup>1</sup>H NMR (CDCl<sub>3</sub>): δ 7.6 (m,5H), 6.9 (1H), 5.7 (d, 1H).

# Step B: Preparation of 1-(2-Chlorophenyl)-3-(trifluoromethyl)-1*H*-pyrazole-5-carboxylic acid

To a suspension containing the title compound of Step A (43.2 g, 138 mmol) in acetonitrile (415 mL) was added sodium dihydrogenphosphate monohydrate (92.4 g, 669 mmol) over about 0.25 h. After stirring at room temperature for 0.5 h, the mixture was cooled to about 5 °C and a solution containing sodium chlorite (181.7 g, 2.0 mmol) in 430 mL of water was added dropwise over 1 h while keeping the reaction temperature at less than 10 °C. [Note: an aqueous sodium hydroxide scrubber was attached to scrub an evolving yellow off-gas.] Following completion of addition the suspension was stirred at 5 °C for about 1 h, at 25 °C overnight, then acidified to pH = 1 by dropwise addition of

concentrated hydrochloric acid (150 mL), then extracted with ethyl acetate (1x500 mL, then 2x250 mL). The combined ethyl acetate extracts were added dropwise to an aqueous sodium metasufite solution (228.5 g in 1.05 L water) at a reaction temperature of less than 20 °C. The suspension was partitioned and the aqueous layer extracted with ethyl acetate (2x100 mL). The organic layers were combined, dried over magnesium sulfate and evaporated under reduced pressure. The residue was triturated with hexane:diethyl ethert (99:1, 100 mL) to yield 32.9 g of the title compound as a solid.

<sup>1</sup>H NMR (DMSO-D<sub>6</sub>):  $\delta$  13.9 (bs,1H), 7.7(m,5H).

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Preparation of 1-(2-chlorophenyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-amine Step C: To a solution of the title compound of Step B (1.0 g, 3.44 mmol, 1.0 equivalent) in chloroform (20 mL), in a 50 mL round bottom flask was added thionyl chloride (1.26 mL, 17.2 mmol, 5.0 equivalents) and anhydrous N,N-dimethylformamide (2 drops). The resulting mixture was refluxed for 18 hours under a nitrogen atmosphere. After 18 hours the reaction was shown to be complete from an aliquot (0.5 mL) that was added to methanol (2 mL) and potassium carbonate and shaken for 5 minutes. No carboxylic acid was detected from the aliquot and only the methyl ester derivative was present (thin-layer chromatography (TLC) analysis  $R_f = 0.75$ , 1:1 ethyl acetate:hexanes). The mixture was then concentrated under reduced pressure and dried in vacuo for 4 hours. The resulting pale yellow oil was diluted with chloroform (30 mL) and transferred to a 100 mL round bottom flask. To the flask was added tetrabutylammonium bromide (3.0 mg, 0.01 mmol, 0.003 equivalents) at 0 °C followed by a solution of sodium azide (0.9 g, 13.8 mmol, 4.0 equiv) in water (5 mL). The mixture was stirred vigorously for 2 hours, after which the organic layer was separated and washed with water (2 x 20 mL), brine (20 mL), dried (Na<sub>2</sub>SO<sub>4</sub>), and filtered into a 100 mL round bottom flask. To the flask was added trifluoroacetic acid (0.69 mL, 8.94 mmol, 2.6 equivalents) and the mixture was stirred at reflux for 42 hours. To monitor the reaction, an aliquot (0.5 mL) was added to chloroform (1 mL) and washed with saturated sodium bicarbonate (2 mL). By TLC analysis after 6 h, both the acyl azide ( $R_f = 0.90, 2:1$  ethyl acetate:hexanes) and product ( $R_f = 0.45, 2:1$  ethyl acetate:hexanes) were present. The mixture was then allowed to cool, washed with saturated sodium bicarbonate (2 x 15 mL), dried (Na<sub>2</sub>SO<sub>4</sub>), and concentrated under reduced pressure. Column chromatography (2:1 ethyl acetate:hexanes) provided 0.68 g of the title compound as a pale yellow solid in an overall yield of 76 %. The <sup>1</sup>H NMR spectrum was consistant with the structure. <sup>1</sup>H NMR (CDCl<sub>3</sub>): δ 7.52-7.35 (4H, m), 6.96 (1H, br), 6.60 (1H, s).

Step D: Preparation of 2-[1-(2-Chlorophenyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-4-iodo-1*H*-isoindole-1,3(2*H*)-dione

To a solution of the title compound of Step C (1.7 g, 6.51 mmol, 1.0 equivalent) in glacial acetic acid (9 mL) in a 75 mL sealed tube reaction vessel was added 3-iodophthalic anhydride (1.78 g, 6.51 mmol, 1.0 equivalent). The reaction vessel was sealed and heated at

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130 °C for 6h, then allowed to cool to room temperature. The mixture was transferred to a 250 mL separatory funnel and water was added (50 mL), upon which a white precipitate formed. The product was extracted with ether (2 x 50 mL), and the combined extracts were washed with water (3 x 50 mL), brine (50 mL), dried (Na<sub>2</sub>SO<sub>4</sub>), and concentrated under reduced pressure to yield 2.46 g of the title compound as a white solid. This material was used in the next step without purification.

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Step E: Preparation of  $N^2$ -[1-(2-Chlorophenyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-3-iodo- $N^I$ -(1-methylethyl)-1,2-benzenedicarboxamide and  $N^I$ -[1-(2-Chlorophenyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-3-iodo- $N^2$ -(1-methylethyl)-1,2-benzenedicarboxamide

To the neat crude material from Step D (110 mg) in a 1.2 mL glass vial was added isopropyl amine (0.5 mL). After 2 minutes the reaction was complete by TLC. The isopropyl amine was removed to give a crude oil which was purified by preparative TLC (1:2 ethyl acetate:hexanes) to afford 24 mg of  $N^2$ -[1-(2-Chlorophenyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-3-iodo- $N^I$ -(1-methylethyl)-1,2-benzenedicarboxamide (yield 18%) (mp 234-235 °C); TLC analysis  $R_f = 0.32$ , (1:1 ethyl acetate:hexanes); <sup>1</sup>H NMR (CDCl<sub>3</sub>):  $\delta$  7.88 (1H, d), 7.66 (1H, br), 7.57-7.52 (2H, m), 7.50-7.43 (3H, m), 7.16-7.11 (2H, m), 5.98 (1H, bd), 4.10 (1H, m), 1.17 (6H, d); and 37 mg of  $N^I$ -[1-(2-Chlorophenyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-3-iodo- $N^2$ -(1-methylethyl)-1,2-benzenedicarboxamide (yield 29%); (mp 226-228 °C); TLC analysis  $R_f = 0.58$ , (1:1 ethyl acetate:hexanes) <sup>1</sup>H NMR (CDCl<sub>3</sub>):  $\delta$  8.94 (1H, s), 7.93 (1H, d), 7.78 (1H, d), 7.63-7.47 (4H, m), 7.17 (1H, t), 7.12 (1H, s), 6.63 (1H, bd), 4.07 (1H, m), 1.18 (6H, d).

By the procedures described herein together with methods known in the art, the following compounds of Tables 1 to 25 can be prepared. The following abbreviations are used in the Tables: t is tertiary, s is secondary, n is normal, i is iso, c is cyclo, Me is methyl, Et is ethyl, Pr is propyl, i-Pr is isopropyl, t-Bu is tertiary butyl, Ph is phenyl and CN is cyano.

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Table 1

 $R^{4b}$ R4a R4b  $R^{4a}$  $\mathbb{R}^7$  $\mathbb{R}^3$  $R^6$  $\mathbb{R}^7$  $\mathbb{R}^3$ <u>R</u>6  $R^{4a}$  $R^{4b}$  $R^7$  $\mathbb{R}^3$ <u>R</u>6  $\mathbf{F}$ CH<sub>3</sub> CF<sub>3</sub> Me C1 Cl F CF<sub>3</sub> Me Cl BrF  $CF_3$ Me C1  $CH_3$  $\mathbf{F}$ CF<sub>3</sub> Et C1Cl F CF<sub>3</sub> Et Cl  $\mathbf{F}$ CF<sub>3</sub> Et Cl Br СH3 F CF<sub>3</sub> i-Pr C1Cl CF<sub>3</sub> i-Pr CF<sub>3</sub> i-Pr Cl F C1 Br F CH<sub>3</sub> F CF3 t-Bu Cl Cl CF<sub>3</sub> Cl  $\mathbf{F}$ CF<sub>3</sub> t-Bu C1 Br  $\mathbf{F}$ t-Bu  $CH_3$  $\mathbf{F}$  $CF_3$ C1CF<sub>3</sub> Me  $\mathbf{F}$ CF<sub>3</sub> Me Br F Br Br Me Br CH<sub>3</sub> F CF<sub>3</sub> CF<sub>3</sub> Et Br Cl F CF3 Et BrBrF Et BrCH3  $\mathbf{F}$ CF<sub>3</sub> i-Pr Br C1F CF<sub>3</sub> i-Pr F CF<sub>3</sub> *i*-Pr Br BrBrCH<sub>3</sub> F CF<sub>3</sub> t-Bu Cl CF<sub>3</sub> t-Bu BrF CF<sub>3</sub> t-Bu Br Br F Br CH<sub>3</sub> F C1 ClC1 F Cl Me F C1 Me CI Me Cl Br  $CH_3$ F Cl ClCl Cl Et C1F C1 Et Cl F Et Br CH<sub>3</sub> F C1Cl *i-*Pr Cl i-Pr Cl C1 F Cl *i*-Pr Cl Br F CH<sub>3</sub> C1 t-Bu Cl t-Bu C1 F Cl F Cl t-Bu CI F Cl Br CH<sub>3</sub> C1 F C1Me Br C1 F C1 Me Br F Me Br Br $CH_3$ F Cl Et Br Cl Cl Et Cl Et Br F BrBrF CH<sub>3</sub> F Cl i-Pr C1CI *i-*Pr Br Br  $\mathbf{F}$ Cl i-Pr F Br Br CH<sub>3</sub> Cl t-Bu C1 *t*-Bu F  $\mathbf{Br}$ C1 F Cl t-Bu Br BrF BrMe C1CH<sub>3</sub> F Br Me Cl C1 F Br Me Cl Br F Br CH<sub>3</sub> F  $\mathbf{Br}$ Et C1C1F BrEt C1 Br  $\mathbf{F}$  $\mathbf{Br}$ Et Cl  $CH_3$ F Br i-Pr Cl Cl F Br i-Pr Cl Br  $\mathbf{F}$ Br*i-*Pr Cl F t-Bu C1 C1 BrF Brt-Bu C1 CH3 Br Cl F Br t-Bu CH3 F Cl  $\mathbf{F}$ BrMe Br Br Me Br  $\mathbf{F}$ Br Me Br Br BrEt CI Et Br BrF BrEt Br CH<sub>3</sub> F Br F Br СН3 F i-Pr C1 F Br i-Pr Br  $\mathbf{F}$ Br *i-*Pr Br Br Br Br F  $\mathbf{Br}$ t-Bu Br CH<sub>3</sub>  $\mathbf{F}$ Br t-Bu Br CI F Br t-Bu Br Br CH<sub>3</sub> C1CF<sub>3</sub> Me C1Cl C1 CF3 Me C1 Br Cl CF<sub>3</sub> Me Cl

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R4b  $R^{4a}$  $R^{4b}$  $R^7$  $\mathbb{R}^3$  $R^6$  $R^{4a}$  $\mathbb{R}^7$  $\mathbb{R}^3$  $R^6$  $R^{4a}$ R<sup>4b</sup>  $R^7$  $\mathbb{R}^3$ <u>R</u>6 CH<sub>3</sub> Cl CF3 · Et C1 Cl Cl CF<sub>3</sub> Et Cl Br Cl CF<sub>3</sub> Et C1 Cl CF<sub>3</sub> i-Pr Cl CH<sub>3</sub> Cl CF<sub>3</sub> i-Pr ClCl Cl Cl CF<sub>3</sub> i-Pr Br CH<sub>2</sub> C1 CF<sub>3</sub> t-Bu Cl Cl C1 CF<sub>3</sub> t-Bu C1 Br C1 CF<sub>3</sub> t-Bu CI Cl CF3 Me CF<sub>3</sub> Br CH<sub>3</sub> C1 CF<sub>3</sub> Cl BrCl Me Me Br Br CH<sub>3</sub> Cl CF<sub>3</sub> Et  $\mathbf{Br}$ Cl Cl CF3 Et Br Br Cl CF<sub>3</sub> Et Br CF<sub>3</sub> CH<sub>3</sub> Cl CF<sub>3</sub> *i-*Pr C1 C1 CF<sub>3</sub> i-Pr Cl *i-*Pr Br Br Br Br CF<sub>3</sub> CH<sub>3</sub> Cl CF<sub>3</sub> t-Bu C1 Cl CF<sub>3</sub> t-Bu Br Br C1 t-Bu Br Br CH<sub>3</sub> C1 CI C1 C1Cl Cl Me Cl C1 C1 Me Cl Me Br Cl CH<sub>3</sub> CIC1 Et C1C1 Cl C1 Et C1BrC1 Cl Et C1 *i*-Pr Cl CH<sub>2</sub> C1 C1 i-Pr C1 CI C1 C1 i-Pr C1 Cl Br CH<sub>2</sub> Cl Cl t-Bu C1 Cl CI Cl t-Bu Cl Br Cl Cl t-Bu Cl Cl Cl Cl C1 Cl Me Cl Cl Me Br CH<sub>3</sub> Me Br Br $\mathbf{Br}$ CH<sub>3</sub> Cl Cl Cl C1C1 Et Br Cl Cl Et Br Et Br Br C1 C1 i-Pr Cl C1 *i*-Pr Br CH<sub>3</sub> Cl i-Pr Br Cl Cl Br BrCH<sub>3</sub> C1 Cl t-Bu Br Cl Cl C1 t-Bu Br Br C1 C1t-Bu Br СH3 Cl BrMe Cl Cl C1 Br Me Cl Br Cl Br Me C1 CH<sub>3</sub> Cl Br Et C1C1 C1 Br Et Cl Br C1 Br Et Cl C1 CH3 Cl Br i-Pr Cl C1 Cl Br i-Pr Cl Br C1Br i-Pr CH<sub>3</sub> C1 Brt-Bu Cl C1 Cl Br t-Bu C1 Br Cl Br t-Bu Cl CH<sub>3</sub> Cl BrBr C1Cl Br Me Br C1 Br Me Br Me BrCH<sub>3</sub> Cl Br Et Br C1 Cl Br Et Br Br C1 BrEt Br C1 Cl *i-*Pr Br CH<sub>3</sub> C1 C1 Br i-Pr Br Br i-Pr Br Br Br CH<sub>3</sub> C1 Brt-Bu Br CI C1 Br t-Bu Br Br Cl Br t-Bu Br Me Cl CH<sub>3</sub> BrCF<sub>3</sub> Me CI Cl Br CF<sub>3</sub> Me C1Br CF<sub>3</sub> Br C1CH<sub>3</sub> Br CF<sub>3</sub> Et Cl Cl CF<sub>3</sub> Et C1 CF<sub>3</sub> Et BrBr Br C1 CH<sub>3</sub>  $\mathbf{Br}$ CF<sub>3</sub> Cl CF<sub>3</sub> i-Pr C1 Br CF<sub>3</sub> i-Pr *i-*Pr Cl Br Br CH<sub>3</sub> Br CF<sub>3</sub> t-Bu C1 C1 Br CF<sub>3</sub> t-Bu C1 Br CF<sub>3</sub> t-Bu C1  $\mathbf{Br}$ CF<sub>3</sub> CH<sub>3</sub> BrCF<sub>3</sub> Me Br C1 Br CF<sub>3</sub> Me Br Br Br Me Br CH<sub>3</sub> Br CF<sub>3</sub> Et Br C1 Br CF<sub>3</sub> Et BrBr Br CF<sub>3</sub> Et Br Br CF<sub>3</sub> i-Pr C1 CF<sub>2</sub> i-Pr CF<sub>3</sub> i-Pr Br CH<sub>3</sub> Br Br Br $\mathbf{Br}$ Br CH<sub>3</sub>  $\mathbf{Br}$ CF<sub>3</sub> t-Bu Cl Br CF<sub>3</sub> t-Bu BrBr $\mathbf{Br}$ CF<sub>3</sub> t-Bu Br Br Br Cl Me Cl Cl C1 Cl C1 C1 Br CH<sub>3</sub> Br Me Br Me Cl Cl CH<sub>3</sub> Br Cl Et C1 Cl Br Cl Et C1Br BrEt Cl i-Pr Cl i-Pr C1 Br BrC1 *i*-Pr CH<sub>3</sub> Br C1Cl Cl Br C1t-Bu Cl CH<sub>3</sub> Br Clt-Bu Cl C1Cl t-Bu C1 Br BrBr Cl Me Br Cl Me C1 Η CF<sub>3</sub> Me C1 Br Br CH<sub>3</sub> Br Br BrCl Et Br CH<sub>3</sub> Br Cl Et Br C1 Η CF<sub>3</sub> Et Cl Br

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 $R^{4a}$ R4b  $R^{4b}$  $R^7$  $\mathbb{R}^3$ R6  $R^{4a}$  $R^{4b}$ R6  $\mathbb{R}^7$  $\mathbb{R}^3$  $R^{4a}$  $\mathbb{R}^7$  $\mathbb{R}^3$ <u>R</u>6 Cl CH<sub>3</sub> Br i-Pr CF<sub>3</sub> i-Pr Cl Cl *i-*Pr  $\mathbf{Br}$ C1Η Br Br Br  $CH_3$  $\mathbf{Br}$ Cl t-Bu Br CI Η CF<sub>3</sub> t-Bu Cl Br Br Cl t-Bu Br CH<sub>3</sub> Br Me Cl Cl CF<sub>3</sub> Me Br Br C1 Br H Br Br Me CH<sub>3</sub> BrBrEt Cl C1 Η CF<sub>3</sub> Et BrBr Br Br Et C1 Br i-Pr C1 C1 *i-*Pr C1 CH<sub>3</sub> Br H CF<sub>3</sub> i-Pr Br Br Br Br CH<sub>3</sub> BrBrt-Bu Cl C1 CF<sub>3</sub> t-Bu Br Br t-Bu C1 Η Br Br C1 C1Cl CH<sub>3</sub> BrBrMe Br Η Me Br Br Me Br  $\mathbf{Br}$ Br $\mathbf{Br}$ Cl H C1 Et Cl Br $CH_3$ Br Et Br Br Et Br C1 C1 i-Pr Cl CH<sub>3</sub> Br Bri-Pr Br  $\mathbf{H}$ Br Br Br i-Pr Br CH<sub>3</sub> Br Br t-Bu Br Cl Η C1t-Bu Cl Br Br Br t-Bu Br CH<sub>3</sub> Ι CF<sub>3</sub> Me :C1 C1 Η Cl Me Br Br Ι CF<sub>3</sub> Me C1 CH<sub>3</sub> I CF<sub>3</sub> Et Cl C1 Η Cl Et BrBr 1 CF<sub>3</sub> Et Cl Ι CF<sub>3</sub> i-Pr Cl C1 H Cl i-Pr Br1 CF<sub>3</sub> i-Pr Cl CH<sub>3</sub> Br CH<sub>3</sub> Ι CF<sub>3</sub> t-Bu Cl Cl Η C1 t-Bu Br Br Ι CF<sub>3</sub> t-Bu Cl I C1 CF<sub>3</sub> CF<sub>3</sub> Me Η Br Me C1 Ι CH<sub>3</sub>  $\mathbf{Br}$ Br Me Br CH<sub>3</sub> Ι CF<sub>3</sub> Et Br Cl Η Br Et C1 Br I CF<sub>3</sub> Et Br i-Pr CH<sub>3</sub> Ι CF<sub>3</sub> i-Pr Br Cl  $\mathbf{H}$ Br C1 I CF<sub>3</sub> i-Pr Br Br I CF<sub>3</sub> t-Bu Cl Η Br t-Bu Cl 1 CF<sub>3</sub> t-Bu Br CH<sub>3</sub> Br Br Ι Cl Cl C1 Br Me Ι Cl Cl CH<sub>3</sub> Me Η Br Br Me CH<sub>3</sub> Ι C1 Et Cl Cl Η Et Br I C1 Et Cl Br Br Ι i-Pr C1 I Cl Cl CH<sub>3</sub> C1 C1 Η Br i-Pr BrBr i-Pr CH<sub>3</sub> Ι Cl t-Bu C1 C1 Br t-Bu Ι Cl t-Bu Cl  $\mathbf{H}$ Br Br I CH<sub>3</sub> Cl Me Br C1Br CI Me Br Br Ι C1Me Br CH<sub>3</sub> Ι C1Et BrC1 Br Cl Et Br Br Ι Cl Et Br CH<sub>3</sub> Ι C1 i-Pr Br Cl Br Cl i-Pr BrΙ Cl *i-*Pr Br Br CH<sub>3</sub> Ι Cl t-Bu Br C1 Br Cl t-Bu Br Br 1 C1 t-Bu Br I Ι. Me CI CH<sub>3</sub> Br Me Cl Cl Br Br Me C1 Br Br  $CH_3$ I BrEt Cl Cl Br Br Et C1 BrΙ Br Et CI CH<sub>3</sub> C1 Ι Br i-Pr C1 C1 Br Br i-Pr Cl Ι Br*i-*Pr Br 1 CH<sub>3</sub> Brt-Bu Cl C1 Br Br t-Bu Cl Br Ι  $\mathbf{Br}$ t-Bu C1 I C1 Ι CH<sub>3</sub> Br Me Br Br BrMe Br Br BrMe Br CH<sub>3</sub> I BrEt Br CI Br Br Et Br Br Ι Br Et Br Ι i-Pr C1 Ι *i*-Pr CH<sub>3</sub> Br Br Br Br i-Pr BrBrBr Br CH<sub>3</sub> Ι Br t-Bu Br Cl Br Br t-Bu Br Br I Br t-Bu Br C1 C1 CF<sub>3</sub> CF<sub>3</sub> Me C1Cl CF<sub>3</sub> Me CF<sub>3</sub> CF<sub>3</sub> Me CH<sub>3</sub> Ι Br CF<sub>3</sub> CF<sub>3</sub> Cl C1 I CF<sub>3</sub> Et C1 BrCF<sub>3</sub> CF<sub>3</sub> Et Cl CH<sub>3</sub> Εt CF<sub>3</sub> i-Pr C1Cl C1 Br CF<sub>3</sub> CF<sub>3</sub> i-Pr Cl CH<sub>3</sub> CF<sub>3</sub> CF<sub>3</sub> i-Pr I

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R<sup>4a</sup> R<sup>4b</sup>  $R^6$  $R^{4a}$  $\mathbb{R}^7$  $\mathbb{R}^3$  $R^{4b}$ <u>R</u>7  $\mathbb{R}^3$ <u>R</u>6  $R^{4a}$   $R^{4b}$ <u>R</u>7  $\mathbb{R}^3$ R6 CH<sub>3</sub> CF<sub>3</sub> CF<sub>3</sub> I t-Bu Cl Cl CF3 t-Bu C1 Br CF3 CF3 t-Bu Cl Me CH<sub>3</sub> CF<sub>3</sub> CF<sub>3</sub> Me Br C1 I CF<sub>3</sub> Me Br Br CF<sub>3</sub> CF<sub>3</sub> Br CH<sub>2</sub> CF<sub>2</sub> CF<sub>3</sub> C1 CF<sub>3</sub> Et CF<sub>3</sub> CF<sub>3</sub> Et Br Ι Br Br Et Br CH<sub>3</sub> CF<sub>3</sub> CF<sub>3</sub> *i-*Pr Br Cl I CF<sub>3</sub> i-Pr Br CF<sub>3</sub> CF<sub>3</sub> i-Pr Br Br CH<sub>3</sub> CF<sub>3</sub> CF<sub>3</sub> Cl 1 CF<sub>3</sub> CF<sub>3</sub> t-Bu Br CF3 t-Bu Br Br *t-*Bu Br CH<sub>2</sub> CF<sub>2</sub> C1 Me C1 C1 1 C1 Me C1 CF<sub>3</sub> Cl Me C1 Br CH<sub>3</sub> CF<sub>3</sub> C1 C1 C1Et C1Ι Et C1CF<sub>3</sub> C1 Et Cl BrCH<sub>2</sub> CF<sub>2</sub> Cl i-Pr C1 Cl Ι Cl *i*-Pr C1 CF<sub>3</sub> C1 *i-*Pr C1 Br t-Bu Cl CH<sub>3</sub> CF<sub>3</sub> Cl C1 Cl t-Bu CF<sub>3</sub> t-Bu Cl Ι Cl Br CI CH<sub>3</sub> CF<sub>3</sub> C1Me Br C11 Cl Me Br Br CF<sub>3</sub> Cl Me Br CH<sub>3</sub> CF<sub>3</sub> C1Et Br Cl 1 C1 Et Br CF<sub>3</sub> C1 Et Br Br CH<sub>3</sub> CF<sub>3</sub> Cl i-Pr Br C1I Cl *i*-Pr  $\mathbf{Br}$ Br CF<sub>3</sub> Cl i-Pr Br CH<sub>3</sub> CF<sub>3</sub> Cl t-Bu Br Cl I Cl t-Bu Br CF<sub>3</sub> C1 t-Bu Br BrCH<sub>3</sub> CF<sub>3</sub> BrMe C1 Cl I Br Me Cl Br CF<sub>3</sub> BrMe C1CH<sub>3</sub> CF<sub>3</sub> Cl C1I C1 Cl Br Et Br Et CF<sub>3</sub> Et  $\mathbf{Br}$ Br CH<sub>3</sub> CF<sub>3</sub> Br *i*-Pr C1 Cl Ι Br *i*-Pr C1Br CF<sub>3</sub> Br *i-*Pr Cl CH<sub>3</sub> CF<sub>3</sub> Br t-Bu Cl Cl I Br t-Bu Cl CF<sub>3</sub> Br t-Bu Cl Br CH<sub>3</sub> CF<sub>3</sub> Br C1 1 Br Me Br CF<sub>3</sub> Me Br BrMe Br Br CH<sub>3</sub> CF<sub>3</sub> Br Et BrC1 Ι Br Et CF<sub>3</sub> Et Br Br Br Br C1CH<sub>3</sub> CF<sub>3</sub> Br i-Pr BrΙ Br *i-*Pr Br Br CF<sub>3</sub> Br *i-*Pr Br Ι CH<sub>3</sub> CF<sub>3</sub> t-Bu C1 Br t-Bu CF<sub>3</sub> Br *t-*Bu BrBrBr Br Br Me CH<sub>3</sub> C1 Cl *n*-Pr Cl Cl CF3 CF3 Me C1 Ι C1 CF<sub>3</sub> Cl CH<sub>3</sub> Cl Cl n-Bu Cl Ι C1 Et C1 C1 CF<sub>2</sub> CF<sub>3</sub> Et C1CF<sub>2</sub> CH<sub>3</sub> C1 C1 s-Bu C1 Cl CF<sub>3</sub> CF<sub>3</sub> i-Pr C1Ι Cl CF<sub>3</sub> *i-*Pr Cl CH<sub>3</sub> Cl Cl *i-*Bu C1 Cl CF3 CF3 t-Bu C1 Ι Cl CF<sub>3</sub> *t-*Bu Cl CH<sub>3</sub>  $\mathbf{H}$ CF<sub>3</sub> Me Cl Cl CF<sub>3</sub> CF<sub>3</sub> Me Br Ι Cl CF<sub>3</sub> Me Br CF<sub>3</sub> Cl CF<sub>3</sub> Et Br CH<sub>3</sub> Η Et C1 Cl CF3 CF3 Et Br Ι CH<sub>3</sub>  $\mathbf{H}$ CF<sub>3</sub> i-Pr C1Cl CF<sub>3</sub> CF<sub>3</sub> i-Pr Br Ι Cl CF<sub>3</sub> i-Pr Br CH3  $\mathbf{H}$ CF<sub>3</sub> t-Bu C1 C1 CF3 CF3 t-Bu 1 C1 CF<sub>3</sub> t-Bu Br Br C1 CH<sub>3</sub>  $\mathbf{H}$ CF<sub>3</sub> Me Br Cl CF<sub>3</sub> Cl Me Cl 1 C1 C1 Me Cl Et CH<sub>3</sub> CF<sub>3</sub> C1 CF<sub>3</sub> C1 Ι Cl Cl Η Et Br Et Cl Cl CH<sub>3</sub> Η CF<sub>2</sub> *i-*Pr Br Cl CF<sub>3</sub> C1 *i-*Pr C1Ι Cl C1 *i-*Pr *t*-Bu C1 C1Cl C1 CF<sub>3</sub> Cl I CH<sub>3</sub> Η CF<sub>3</sub> t-Bu Br Cl t-Bu CH<sub>3</sub>  $\mathbf{H}$ Cl Me C1 C1 CF<sub>3</sub> C1 Me BrΙ Cl Cl Me Br I Cl Cl Et Br CH<sub>3</sub> H C1 Et C1C1 CF<sub>3</sub> Cl Et Br C1Cl *i*-Pr CH<sub>3</sub> Η C1 i-Pr C1C1CF<sub>3</sub> C1i-Pr 1 Br BrCl Cl t-Bu Br CH3 Η Cl t-Bu Cl Cl CF<sub>3</sub> Cl t-Bu Br Ι

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Table 2

<u>R<sup>3</sup></u>	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
Me	3-Me	H	CF <sub>3</sub>	F	Ме	3-C1	$\mathbf{H}$	CF <sub>3</sub>	F
Et	3-Ме	5-Me	OCF <sub>3</sub>	F	Et	3-C1	5-Me	OCF <sub>3</sub>	F
i-Pr	3-Me	H	OCF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	F
t-Bu	3-Me	5-C1	Br	F	<i>t</i> -Bu	3-C1	5-C1	Br	F
Me	3-Me	H	Br	F	Me	3-C1	H	Br	F
Et	3-Me	H	Cl	F	Et	3-C1	$\mathbf{H}$	C1	$\mathbf{F}$
<i>i</i> -Pr	3-Me	5-Br	Cl	F	<i>i-</i> Pr	3-C1	5-Br	C1	F
t-Bu	3-Me	H	I	F	<i>t</i> -Bu	3-C1	$\mathbf{H}$	I	F
propargyl	3-Me	H	CF <sub>3</sub>	F	propargyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	F
c-propyl	3-Me	H	OCF <sub>3</sub>	F	c-propyl	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	F
<i>i-</i> Pr	3-Me	5-C1	CF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	F
t-Bu	3-Me	H	SCF <sub>3</sub>	F	t-Bu	3-C1	H	SCF <sub>3</sub>	F
Me	3-Me	5-C1	SCHF <sub>2</sub>	F	Me	3-C1	5-C1	SCHF <sub>2</sub>	F

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6
Et	3-Ме	H	OCHF <sub>2</sub>	F	Et	3-C1	н	OCHF <sub>2</sub>	F
<i>i-</i> Pr	3-Ме	H	CF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	н	CF <sub>3</sub>	F
t-Bu	3-Ме	H	$C_2F_5$	F	<i>t</i> -Bu	3-C1	H	$C_2F_5$	F
propargyl	3-Me	H	$C_2F_5$	F	propargyl	3-C1	$\mathbf{H}$	$C_2F_5$	F
c-propyl	3-Me	$\mathbf{H}$	CF <sub>3</sub>	F	c-propyl	3-C1	H	CF <sub>3</sub>	F
<i>i-</i> Pr	3-Me	H	Me	F	<i>i-</i> Pr	3-C1	H	Me	F
t-Bu	3-Me	5-Br	CN	F	<i>t</i> -Bu	3-C1	5-Br	CN	F
Me	3-Ме	H	CF <sub>3</sub>	Cl	Me	3-C1	н	CF <sub>3</sub>	C1
Et	3-Me	5-Me	OCF <sub>3</sub>	Cl	Et	3-C1	5-Me	OCF <sub>3</sub>	C1
<i>i-</i> Pr	3-Me	H	OCF <sub>3</sub>	Cl	<i>i-</i> Pr	3-C1	н	OCF <sub>3</sub>	C1
t-Bu	3-Me	5-C1	Br	C1	t-Bu	3-C1	5-C1	Br	C1
Me	3-Me	H	Br	C1	Me	3-C1	H	Br	C1
Et	3-Me	H	Cl	Cl	Et	3-C1	H	Cl	Cl
<i>i-</i> Pr	3-Me	5-Br	C1	C1	<i>i-</i> Pr	3-C1	5-Br	Cl	C1
t-Bu	3-Me	H	I	Cl	<i>t-</i> Bu	3-C1	$\mathbf{H}$	Ι	C1
propargyl	3-Me	H	CF <sub>3</sub>	C1	propargyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	C1
c-propyl	3-Me	H	OCF <sub>3</sub>	C1	<i>c-</i> propyl	3-C1	H	OCF <sub>3</sub>	Cl
<i>i</i> -Pr	3-Me	5-C1	CF <sub>3</sub>	C1	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	C1
t-Bu	3-Me	H	SCF <sub>3</sub>	C1	t-Bu	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	C1
Me	3-Me	5-C1	SCHF <sub>2</sub>	Cl	Me	3-C1	5-C1	SCHF <sub>2</sub>	C1
Et	3-Me	H	OCHF <sub>2</sub>	Cl	Et	3-C1	H	OCHF <sub>2</sub>	Cl
i-Pr	3-Me	H	CF <sub>3</sub>	Cl	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	C1
t-Bu	3-Me	H	$C_2F_5$	C1	t-Bu	3-C1	H	$C_2F_5$	C1
propargyl	3-Me	H	$C_2F_5$	Cl	propargyl	3-C1	$\mathbf{H}$	$C_2F_5$	C1
c-propyl	3-Me	H	CF <sub>3</sub>	Cl	c-propyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	Cl
<i>i-</i> Pr	3-Me	H	Me	Cl	i-Pr	3-C1	H	Me	C1
t-Bu	3-Me	5-Br	CN	C1	<i>t-</i> Bu	3-C1	5-Br	CN	Cl
Me	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	Me	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
Et	3-Me	5-Me	OCF <sub>3</sub>	$CF_3$	Et	3-C1	5-Me	OCF <sub>3</sub>	CF <sub>3</sub>
i-Pr	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Me	5-C1	Br	CF <sub>3</sub>	t-Bu	3-C1	5-C1	Br	CF <sub>3</sub>
Me	3-Me	H	Br	CF <sub>3</sub>	Me	3-C1	H	Br	CF <sub>3</sub>
Et	3-Ме	H	C1	CF <sub>3</sub>	Et	3-C1	$\mathbf{H}$	Cl	CF <sub>3</sub>
<i>i-</i> Pr	3-Me	5-Br	C1	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-Br	Cl	CF <sub>3</sub>
<i>t-</i> Bu	3-Me	H	I	CF <sub>3</sub>	<i>t-</i> Bu	3-C1	H	I	CF <sub>3</sub>
propargyl	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	propargyl	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
c-propyl	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	c-propyl	3-C1	Н	OCF <sub>3</sub>	CF <sub>3</sub>

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	R4b	<u>R</u> 7	<u>R</u> 6
<i>i</i> -Pr	3-Me	5-C1	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	t-Bu	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
Me	3-Me	5-C1	SCHF <sub>2</sub>	CF <sub>3</sub>	Me	3-C1	5-C1	SCHF <sub>2</sub>	CF <sub>3</sub>
Et	3-Ме	H	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	3-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
<i>i</i> -Pr	3-Ме	H	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	Н	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Ме	H	$C_2F_5$	CF <sub>3</sub>	<i>t</i> -Bu	3-C1	H	$C_2F_5$	CF <sub>3</sub>
propargyl	3-Me	H	$C_2F_5$	CF <sub>3</sub>	propargyl	3-C1	H	$C_2F_5$	CF <sub>3</sub>
c-propyl	3-Ме	$\mathbf{H}$	CF <sub>3</sub>	CF <sub>3</sub>	c-propyl	3-C1	Н	CF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	3-Ме	H	Me	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	Н	Me	CF <sub>3</sub>
t-Bu	3-Me	5-Br	CN	CF <sub>3</sub>	<i>t</i> -Bu	3-C1	5-Br	CN	CF <sub>3</sub>
Me	3-Me	H	CF <sub>3</sub>	Br	Me	3-C1	H	CF <sub>3</sub>	Br
Et	3-Me	5-Me	OCF <sub>3</sub>	Br	Et	3-C1	5-Me	OCF <sub>3</sub>	Br
i-Pr	3-Me	Н	OCF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	Br
t-Bu	3-Me	5-C1	Br	Br	<i>t-</i> Bu	3-C1	5-Cl	Br	Br
Me	3-Me	H	Br	Br	Me	3-C1	H	Br	Br
Et	3-Me	H	Cl	Br	Et	3-C1	H	C1	Br
<i>i</i> -Pr	3-Me	5-Br	Cl	Br	<i>i-</i> Pr	3-C1	5-Br	Cl	Br
t-Bu	3-Me	H	I	Br	<i>t-</i> Bu	3-C1	H	I	Br
propargyl	3-Me	H	CF <sub>3</sub>	Br	propargyl	3-C1	H	CF <sub>3</sub>	Br
c-propyl	3-Me	H	OCF <sub>3</sub>	Br	c-propyl	3-C1	H	OCF <sub>3</sub>	Br
<i>i</i> -Pr	3-Me	5-C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	Br
t-Bu	3-Me	H	SCF <sub>3</sub>	Br	t-Bu	3-C1	H	SCF <sub>3</sub>	Br
Me	3-Me	5-C1	SCHF <sub>2</sub>	Br	Me	3-C1	5-C1	SCHF <sub>2</sub>	Br
Et	3-Me	H	OCHF <sub>2</sub>	Br	Et	3-C1	H	OCHF <sub>2</sub>	Br
<i>i-</i> Pr	3-Me	H	CF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	Br
t-Bu	3-Me	H	$C_2F_5$	Br	<i>t</i> -Bu	3-C1	H	$C_2F_5$	Br
propargyl	3-Me	$\mathbf{H}$	$C_2F_5$	Br	propargyl	3-C1	H	$C_2F_5$	Br
c-propyl	3-Me	$\mathbf{H}$	CF <sub>3</sub>	Br	c-propyl	3-C1	H	CF <sub>3</sub>	Br
<i>i-</i> Pr	3-Me	H	Me	Br	<i>i-</i> Pr	3-C1	H	Me	Br
t-Bu	3-Me	5-Br	CN	Br	<i>t</i> -Bu	3-C1	5-Br	CN	Br
Me	6-Me	H	OCHF <sub>2</sub>	F	Me	6-C1	H	OCHF <sub>2</sub>	F
Et	6-Me	H	OCHF <sub>2</sub>	F	Et	6-C1	H	OCHF <sub>2</sub>	F
<i>i</i> -Pr	6-Ме	H	OCHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	F
t-Bu	6-Ме	H	$OCHF_2$	F	<i>t-</i> Bu	6-C1	H	OCHF <sub>2</sub>	F
Me	6-Me	H	$SCHF_2$	F	Me	6-C1	H	SCHF <sub>2</sub>	F
Et	6-Me	H	schf <sub>2</sub>	F	Et	6-C1	H	SCHF <sub>2</sub>	F
i-Pr	6-Me	H	$SCHF_2$	F	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	F

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
<i>t</i> -Bu	6-Ме	H	SCHF <sub>2</sub>	F	<i>t</i> -Bu	6-C1	H	SCHF <sub>2</sub>	F
Me	6-Me	H	OCF <sub>3</sub>	$\mathbf{F}$	Ме	6-C1	H	OCF <sub>3</sub>	F
Et	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	$\mathbf{F}$	Et	6-C1	H	OCF <sub>3</sub>	F
i-Pr	6-Me	H	OCF <sub>3</sub>	$\mathbf{F}$	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	F
t-Bu	6-Me	H	OCF <sub>3</sub>	F	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	F
Me	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	F	Ме	6-CI	Н	SCF <sub>3</sub>	F
Et	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	F	Et	6-C1	H	SCF <sub>3</sub>	F
i-Pr	6-Me	H	SCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	F
t-Bu	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	F	<i>t</i> -Bu	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	F
Me	6-Me	$\mathbf{H}$	$C_2F_5$	F	Me	6-C1	$\mathbf{H}$	$C_2F_5$	F
Et	6-Me	$\mathbf{H}$	$C_2F_5$	F	Et	6-C1	Н	$C_2F_5$	F
i-Pr	6-Me	$\mathbf{H}$	$C_2F_5$	F	<i>i-</i> Pr	6-C1	H	$C_2F_5$	F
t-Bu	6-Me	$\mathbf{H}$	$C_2F_5$	F	<i>t-</i> Bu	6-C1	H	$C_2F_5$	F
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	Ме	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$
Et	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
<i>i-</i> Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	t-Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
Me	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	Ме	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F
<i>i-</i> Pr	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Me	Н	i-C <sub>3</sub> F <sub>7</sub>	F	<i>t-</i> Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	H	CN	F	Ме	6-C1	H	CN	F
Et	6-Me	H	CN	F	Et	6-C1	H	CN	F
i-Pr	6-Me	H	CN	F	i-Pr	6-C1	H	CN	F
t-Bu	6-Me	H	CN	$\mathbf{F}$	t-Bu	6-C1	H	CN	F
Me	6-Me	H	OCHF <sub>2</sub>	C1	Me	6-C1	H	OCHF <sub>2</sub>	C1
Et	6-Me	H	OCHF <sub>2</sub>	Cl	Et	6-C1	H	OCHF <sub>2</sub>	C1
i-Pr	6-Me	H	OCHF <sub>2</sub>	C1	i-Pr	6-C1	H	OCHF <sub>2</sub>	C1
t-Bu	6-Me	$\mathbf{H}$	$OCHF_2$	Cl	<i>t-</i> Bu	6-Cl	H	OCHF <sub>2</sub>	Cl
Me	6-Me	H	SCHF <sub>2</sub>	C1	Me	6-C1	H	SCHF <sub>2</sub>	Cl
Et	6-Me	H	schf <sub>2</sub>	Cl	Et	6-C1	H	SCHF <sub>2</sub>	Cl
i-Pr	6-Me	$\mathbf{H}$	$SCHF_2$	C1	<i>i-</i> Pr	6-C1	Н	SCHF <sub>2</sub>	Cl
t-Bu	6-Me	H	$SCHF_2$	C1	<i>t-</i> Bu	6-C1	H	SCHF <sub>2</sub>	C1
Me	6-Me	H	OCF <sub>3</sub>	C1	Me	6-C1	H	OCF <sub>3</sub>	C1
Et	6-Me	H	OCF <sub>3</sub>	C1	Et	6-C1	Н	OCF <sub>3</sub>	Cl
i-Pr	6-Me	H	OCF <sub>3</sub>	Cl	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	Cl
t-Bu	6-Me	H	OCF <sub>3</sub>	C1	t-Bu	6-C1	H	OCF <sub>3</sub>	Cl

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<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6
Me	6-Ме	Н	SCF <sub>3</sub>	Cl	Ме	6-C1	Н	SCF <sub>3</sub>	C1
Et	6-Ме	H	SCF <sub>3</sub>	Cl	Et	6-C1	H	SCF <sub>3</sub>	C1
i-Pr	6-Ме	H	SCF <sub>3</sub>	Cl	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	C1
t-Bu	6-Me	H	SCF <sub>3</sub>	C1	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	C1
Me	6-Ме	H	$C_2F_5$	C1	Me	6-C1	$\mathbf{H}$	$C_2F_5$	C1
Et	6-Ме	H	$C_2F_5$	Cl	Et	6-C1	$\mathbf{H}$	$C_2F_5$	C1
i-Pr	6-Me	H	$C_2F_5$	C1	<i>i-</i> Pr	6-C1	H	$C_2F_5$	C1
t-Bu	6-Me	H	$C_2F_5$	Cl	<i>t-</i> Bu	6-C1	H	$C_2F_5$	C1
Me	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1
i-Pr	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-Cl	H	n-C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	<i>t-</i> Bu	6-C1	H	$n$ - $C_3F_7$	C1
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	C1	Me	6-Cl	Н	i-C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl
t-Bu	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	C1	<i>t-</i> Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Ме	H	CN	Cl	Me	6-Cl	H	CN	Cl
Et	6-Ме	H	CN	C1	Et	6-C1	H	CN	Cl
i-Pr	6-Me	H	CN	C1	<i>i</i> -Pr	6- <b>C</b> 1	H	CN	Cl
t-Bu	6-Ме	H	CN	C1	<i>t</i> -Bu	6-C1	H	CN	Cl
Me	6-Ме	H	OCHF <sub>2</sub>	Br	Me	6-C1	H	OCHF <sub>2</sub>	Br
Et	6-Me	H	OCHF <sub>2</sub>	Br	Et	6-C1	H	OCHF <sub>2</sub>	Br
i-Pr	6-Me	H	OCHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	Br
t-Bu	6-Me	H	OCHF <sub>2</sub>	Br	<i>t-</i> Bu	6-C1	H	OCHF <sub>2</sub>	Br
Me	6-Me	H	SCHF <sub>2</sub>	Br	Me	6-C1	H	SCHF <sub>2</sub>	Br
Et	6-Ме	H	SCHF <sub>2</sub>	Br	Et	6-C1	H	SCHF <sub>2</sub>	Br
<i>i-</i> Pr	6-Ме	H	SCHF <sub>2</sub>	Br	<i>i</i> -Pr	6-C1	H	SCHF <sub>2</sub>	Br
t-Bu	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	Br	t-Bu	6-C1	H	SCHF <sub>2</sub>	Br
Me	6-Ме	H	OCF <sub>3</sub>	Br	Me	6-C1	H	OCF <sub>3</sub>	Br
Et	6-Me	H	OCF <sub>3</sub>	Br	Et	6-C1	H	OCF <sub>3</sub>	Br
<i>i-</i> Pr	6-Me	H	OCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	Br
t-Bu	6-Me	H	OCF <sub>3</sub>	Br	t-Bu	6-C1	H	OCF <sub>3</sub>	Br
Me	6-Ме	H	SCF <sub>3</sub>	Br	Me	6-C1	H	SCF <sub>3</sub>	Br
Et	6-Ме	H	SCF <sub>3</sub>	Br	Et	6-C1	H	SCF <sub>3</sub>	Br
i-Pr	6-Ме	H	SCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	Br
t-Bu	6-Ме	H	SCF <sub>3</sub>	Br	t-Bu	6-C1	H	SCF <sub>3</sub>	Br
Me	6-Me	$\mathbf{H}$	$C_2F_5$	Br	Me	6-Cl	H	$C_2F_5$	Br

<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
Et	6-Me	$\mathbf{H}$	$C_2F_5$	Br	Et	6-C1	H	$C_2F_5$	Br
<i>i-</i> Pr	6-Ме	H	$C_2F_5$	Br	<i>i-</i> Pr	6-C1	$\mathbf{H}$	$C_2F_5$	Br
t-Bu	6-Ме	H	$C_2F_5$	Br	<i>t</i> -Bu	6-C1	H	$C_2F_5$	Br
Me	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
<i>i-</i> Pr	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	<i>t</i> -Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br
<i>i-</i> Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	6-Cl	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	H	CN	Br	Me	6-C1	H	CN	Br
Et	6-Me	H	CN	Br	Et	6-C1	H	CN	Br
<i>i-</i> Pr	6-Me	H	CN	Br	<i>i-</i> Pr	6-C1	H	CN	Br
t-Bu	6-Ме	$\mathbf{H}$	CN	Br	<i>t</i> -Bu	6-C1	H	CN	Br
Me	6-Ме	Н	$OCHF_2$	CF <sub>3</sub>	Me	6-C1	Н	OCHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Ме	Н	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	Н	OCHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	Н	$OCHF_2$	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	Н	$OCHF_2$	CF <sub>3</sub>	t-Bu	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	Me	6-Cl	H	SCHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>
<i>i</i> -Pr	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	$SCHF_2$	CF <sub>3</sub>
t-Bu	6-Me	Н	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	Н	SCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
i-Pr	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	Ме	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	H	SCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	H	$C_2F_5$	CF <sub>3</sub>	Me	6-C1	H	$C_2F_5$	CF <sub>3</sub>
Et	6-Me	H	$C_2F_5$	CF <sub>3</sub>	Et	6-C1	H	$C_2F_5$	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	$C_2F_5$	CF <sub>3</sub>	<i>i</i> -Pr	6-C1	H	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Ме	H	$C_2F_5$	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	H	$C_2F_5$	CF <sub>3</sub>
Me	6-Ме	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Ме	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>

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<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6
<i>i</i> -Pr	6-Me	Н	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Ме	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	Н	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	H	CN	CF <sub>3</sub>	Me	6-C1	H	CN	CF <sub>3</sub>
Et	6-Me	H	CN	CF <sub>3</sub>	Et	6-C1	H	CN	CF <sub>3</sub>
i-Pr	6-Ме	$\mathbf{H}$	CN	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	CN	CF <sub>3</sub>
t-Bu	6-Me	$\mathbf{H}$	CN	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	H	CN	CF <sub>3</sub>
Me	6-Ме	C1	OCHF <sub>2</sub>	F	Me	6-C1	C1	OCHF <sub>2</sub>	F
Et	6-Ме	C1	OCHF <sub>2</sub>	F	Et	6-Cl	C1	OCHF <sub>2</sub>	F
i-Pr	6-Me	Cl	OCHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	F
t-Bu	6-Me	Cl	OCHF <sub>2</sub>	F	<i>t-</i> Bu	6-C1	Cl	OCHF <sub>2</sub>	F
Me	6-Ме	Cl	SCHF <sub>2</sub>	$\mathbf{F}$	Me	6-C1	Cl	SCHF <sub>2</sub>	F
Et	6-Me	Cl	SCHF <sub>2</sub>	F	Et '	6-C1	C1	SCHF <sub>2</sub>	F
<i>i-</i> Pr	6-Me	Cl	SCHF <sub>2</sub>	F	i-Pr	6-C1	C1	SCHF <sub>2</sub>	F
t-Bu	6-Me	Cl	SCHF <sub>2</sub>	F	<i>t-</i> Bu	6-C1	C1	SCHF <sub>2</sub>	F
Me	6-Me	Cl	OCF <sub>3</sub>	F	Me	6-C1	C1	OCF <sub>3</sub>	F
Et	6-Me	C1	OCF <sub>3</sub>	F	Et	6-C1	Cl	OCF <sub>3</sub>	F
i-Pr	6-Me	C1	OCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	F
t-Bu	6-Me	C1	OCF <sub>3</sub>	F	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	F
Me	6-Me	C1	SCF <sub>3</sub>	F	Me	6-C1	C1	SCF <sub>3</sub>	F
Et	6-Me	C1	SCF <sub>3</sub>	F	Et	6-C1	Cl	SCF <sub>3</sub>	F
i-Pr	6-Me	C1	SCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	F
t-Bu	6-Me	C1	SCF <sub>3</sub>	F	<i>t</i> -Bu	6-C1	Cl	SCF <sub>3</sub>	F
Me	6-Me	C1	$C_2F_5$	F	Me	6-C1	Cl	$C_2F_5$	F
Et	6-Me	C1	$C_2F_5$	F	Et	6-C1	Cl	$C_2F_5$	F
i-Pr	6-Me	C1	$C_2F_5$	F	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	F
t-Bu	6-Me	C1	$C_2F_5$	F	t-Bu	6-C1	Cl	$C_2F_5$	F
Me	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F
i-Pr	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	F	t-Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	<b>C</b> 1	i-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	F
<i>i-</i> Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	F

<u>R</u> 3	$\mathbb{R}^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
t-Bu	6-Ме	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>t-</i> Bu	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	Cl	CN	F	Me	6-C1	C1	CN	F
Et	6-Ме	C1	CN	F	Et	6-C1	Cl	CN	F
i-Pr	6-Me	C1	CN	F	<i>i</i> -Pr	6-C1	Cl	CN	F
t-Bu	6-Me	Cl	CN	F	t-Bu	6-C1	Cl	CN	F
Me	6-Me	Cl	$OCHF_2$	C1	Me	6-C1	Cl	OCHF <sub>2</sub>	C1
Et	6-Me	Cl	$OCHF_2$	C1	Et	6-C1	C1	OCHF <sub>2</sub>	C1
<i>i-</i> Pr	6-Ме	Cl	$OCHF_2$	C1	<i>i-</i> Pr	6-C1	C1	$OCHF_2$	C1
t-Bu	6-Ме	Cl	$OCHF_2$	C1	<i>t</i> -Bu	6-C1	C1	$OCHF_2$	C1
Me	6-Ме	Cl	SCHF <sub>2</sub>	C1	Me	6-C1	C1	SCHF <sub>2</sub>	C1
Et	6-Me	C1	SCHF <sub>2</sub>	C1	Et	6-C1	C1	schf <sub>2</sub>	C1
i-Pr	6-Me	C1	SCHF <sub>2</sub>	C1	i-Pr	6-Cl	C1	schf <sub>2</sub>	. C1
t-Bu	6-Me	Cl	SCHF <sub>2</sub>	Cl	<i>t-</i> Bu	6-Cl	Cl	schf <sub>2</sub>	C1
Me	6-Me	Cl	OCF <sub>3</sub>	Cl	Ме	6-C1	C1	OCF <sub>3</sub>	C1
Et	6-Me	Cl	OCF <sub>3</sub>	C1	Et	6-Cl	C1	OCF <sub>3</sub>	C1
i-Pr	6-Me	Cl	OCF <sub>3</sub>	C1	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	C1
t-Bu	6-Ме	Cl	OCF <sub>3</sub>	C1	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	C1
Me	6-Ме	C1	SCF <sub>3</sub>	C1	Me	6-Cl	Cl	SCF <sub>3</sub>	C1
Et	6-Me	C1	SCF <sub>3</sub>	C1	Et	6-C1	Cl	SCF <sub>3</sub>	C1
i-Pr	6-Me	Cl	SCF <sub>3</sub>	C1	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	Cl
t-Bu	6-Ме	Cl	SCF <sub>3</sub>	C1	<i>t</i> -Bu	6-C1	Cl	SCF <sub>3</sub>	C1
Me	6-Me	C1	$C_2F_5$	C1	Ме	6-C1	Cl	$C_2F_5$	C1
Et	6-Me	C1	$C_2F_5$	C1	Et	6-C1	Cl	$C_2F_5$	C1
<i>i-</i> Pr	6-Me	C1	$C_2F_5$	C1	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	C1
t-Bu	6-Me	C1	$C_2F_5$	C1	<i>t-</i> Bu	6-C1	Cl	$C_2F_5$	Cl
Me	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl	Me	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl
Et	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl	Et	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
<i>i-</i> Pr	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl	<i>i</i> -Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl	t-Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
<i>i-</i> Pr	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	t-Bu	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl
Me	6-Me	C1	CN	C1	Me	6-C1	Cl	CN	Cl
Et	6-Ме	C1	CN	C1	Et	6-Cl	Cl	CN	Cl
i-Pr	6-Me	C1	CN	C1	<i>i-</i> Pr	6-C1	Cl	CN	C1
t-Bu	6-Me	C1	CN	C1	t-Bu	6-C1	C1	CN	Cl

<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R<sup>3</sup></u>	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
Me	6-Ме	C1	OCHF <sub>2</sub>	Br	Me	6-C1	Cl	OCHF <sub>2</sub>	Br
Et	6-Ме	Cl	OCHF <sub>2</sub>	Br	Et	6-C1	C1	OCHF <sub>2</sub>	Br
<i>i-</i> Pr	6-Me	Cl	OCHF <sub>2</sub>	Br	<i>i</i> -Pr	6-C1	C1	OCHF <sub>2</sub>	Br
t-Bu	6-Me	C1	$OCHF_2$	Br	t-Bu	6-C1	C1	OCHF <sub>2</sub>	Br
Me	6-Me	C1	SCHF <sub>2</sub>	Br	Me	6-C1	C1	SCHF <sub>2</sub>	Br
Et	6-Me	C1	SCHF <sub>2</sub>	Br	Et	6-C1	C1	SCHF <sub>2</sub>	Br
<i>i-</i> Pr	6-Ме	Cl	SCHF <sub>2</sub>	Br	<i>i</i> -Pr	6-C1	C1	SCHF <sub>2</sub>	Br
t-Bu	6-Ме	Cl	SCHF <sub>2</sub>	Br	t-Bu	6-C1	C1	SCHF <sub>2</sub>	Br
Me	6-Ме	C1	OCF <sub>3</sub>	Br	Me	6-C1	C1	OCF <sub>3</sub>	Br
Et	6-Ме	Cl	OCF <sub>3</sub>	Br	Et	6-C1	Cl	OCF <sub>3</sub>	Br
<i>i-</i> Pr	6-Me	C1	OCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	Br
t-Bu	6-Me	C1	OCF <sub>3</sub>	Br	<i>t-</i> Bu	6-C1	C1	OCF <sub>3</sub>	Br
Me	6-Me	Cl	SCF <sub>3</sub>	Br	Me	6-C1	C1	SCF <sub>3</sub>	Br
Et	6-Ме	C1	SCF <sub>3</sub>	Br	Et	6-C1	C1	SCF <sub>3</sub>	Br
<i>i-</i> Pr	6-Me	Cl	SCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	Br
t-Bu	6-Me	C1	SCF <sub>3</sub>	Br	t-Bu	6-C1	C1	SCF <sub>3</sub>	Br
Me	6-Me	C1	$C_2F_5$	Br	Me	6-C1	C1	$C_2F_5$	Br
Et	6-Me	Cl	$C_2F_5$	Br	Et	6-C1	Cl	$C_2F_5$	Br
<i>i-</i> Pr	6-Me	Cl	$C_2F_5$	Br	<i>i</i> -Pr	6-C1	C1	$C_2F_5$	Br
t-Bu	6-Me	Cl	$C_2F_5$	Br	<i>t-</i> Bu	6-C1	C1	$C_2F_5$	Br
Me	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
i-Pr	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	<i>t</i> -Bu	6-Cl	C1	n-C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
<i>i-</i> Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Ме	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	<i>t</i> -Bu	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	Cl	CN	Br	Ме	6-C1	C1	CN	Br
Et	6-Me	Cl	CN	Br	Et	6-C1	C1	CN	Br
<i>i-</i> Pr	6-Me	C1	CN	Br	<i>i-</i> Pr	6-C1	C1	CN	Br
t-Bu	6-Me	C1	CN	Br	<i>t-</i> Bu	6-C1	C1	CN	Br
Me	6-Me	<b>C</b> 1	OCHF <sub>2</sub>	CF <sub>3</sub>	Me	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Me	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	t-Bu	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Ме	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	Ме	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>

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<u>R</u> 3	<u>R<sup>4a</sup></u>	$\underline{R^{4b}}$	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
Et	6-Me	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	C1	SCHF <sub>2</sub>	$CF_3$
i-Pr	6-Me	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Ме	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	Ме	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	Et	6-CI	Cl	OCF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	i-Pr	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	t-Bu	6-C1	Cl	OCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	Ci	SCF <sub>3</sub>	CF <sub>3</sub>
i-Pr	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	$CF_3$
t-Bu	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	t-Bu	6-C1	C1	SCF <sub>3</sub>	$CF_3$
Me	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	Me	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
Et	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	Et	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
i-Pr	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	i-Pr	6-C1	C1	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
Me	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-Cl	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
i-Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	i-Pr	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	t-Bu	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Ме	CI	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	i-Pr	6-CI	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	t-Bu	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	C1	CN	CF <sub>3</sub>	Me	6-C1	Cl	CN	CF <sub>3</sub>
Et	6-Me	C1	CN	CF <sub>3</sub>	Et	6-C1	Cl	CN	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	C1	CN	CF <sub>3</sub>	i-Pr	6-C1	Cl	CN	CF <sub>3</sub>
t-Bu	6-Ме	<b>C</b> 1	CN	CF <sub>3</sub>	t-Bu	6-C1	Cl	CN	CF <sub>3</sub>

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## Table 3

$\underline{\mathbb{R}^3}$	$R^{4a}$	<u>R4b</u>	$\underline{\mathbf{R}^7}$	<u>R</u> 6	<u>X</u>	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{X}}$
Me	6-Me	H	$OCHF_2$	F	CH	Me	6-Cl	H	$OCHF_2$	F	CH
Et	6-Me	H	$OCHF_2$	F	CH	Et	6-C1	H	$OCHF_2$	F	CH
i-Pr	6-Me	$\mathbf{H}$	$OCHF_2$	F	CH	i-Pr	6-C1	H	$OCHF_2$	F	CH
t-Bu	6-Me	H	$OCHF_2$	F	CH	<i>t-</i> Bu	6-C1	H	OCHF <sub>2</sub>	F	CH
Me	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	F	CH	Me	6-Cl	H	SCHF <sub>2</sub>	F	CH
Et	6-Ме	H	SCHF <sub>2</sub>	F	CH	Et	6-C1	H	SCHF <sub>2</sub>	F	CH
i-Pr	6-Ме	H	SCHF <sub>2</sub>	F	CH	i-Pr	6-C1	H	SCHF <sub>2</sub>	F	CH
t-Bu	6-Ме	H	SCHF <sub>2</sub>	F	CH	t-Bu	6-C1	H	SCHF <sub>2</sub>	F	CH
Me	6-Me	H	OCF <sub>3</sub>	F	CH	Me	6-C1	H	OCF <sub>3</sub>	F	CH
Et	6-Me	H	OCF <sub>3</sub>	$\mathbf{F}$	CH	Et	6-Cl	H	OCF <sub>3</sub>	F	CH
<i>i</i> -Pr	6-Ме	H	OCF <sub>3</sub>	F	CH	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	F	CH
t-Bu	6-Me	H	OCF <sub>3</sub>	F	CH	t-Bu	6-C1	H	OCF <sub>3</sub>	F	CH
Me	6-Ме	$\mathbf{H}$	SCF <sub>3</sub>	F	CH	Me	6-C1	H	SCF <sub>3</sub>	F	CH
Et	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	F	CH	Et	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	F	CH
i-Pr	6-Me	H	SCF <sub>3</sub>	F	CH	i-Pr	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	F	CH
t-Bu	6-Me	H	SCF <sub>3</sub>	F	CH	t-Bu	6-C1	H	SCF <sub>3</sub>	F	CH
Me	6-Me	$\mathbf{H}$	$C_2F_5$	F	CH	Me	6-C1	H	$C_2F_5$	F	CH
Et	6-Me	$\mathbf{H}$	$C_2F_5$	F	CH	Et	6-C1	H	$C_2F_5$	F	CH
i-Pr	6-Me	H	$C_2F_5$	F	CH	i-Pr	6-C1	H	$C_2F_5$	F	CH
t-Bu	6-Me	$\mathbf{H}$	$C_2F_5$	F	CH	t-Bu	6-C1	H	$C_2F_5$	F	CH
Me	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Ме	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i</i> -Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	CH	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH

-3	R <sup>4a</sup>	R4b	<b>n</b> 7	ъ6	~ l	<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
<u>R<sup>3</sup></u>			<u>R</u> 7	<u>R</u> 6	X	_	6-Cl	H		F	CH
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	Н	i-C <sub>3</sub> F <sub>7</sub>	F	СН
i-Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	i-Pr		n H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	t-Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub> CN	F	CH
Me	6-Me	H	CN	F	CH	Me	6-Cl		CN	F	CH
Et	6-Me	H	CN	F	CH	Et	6-Cl	Н	CN	F	CH
i-Pr	6-Me	H	CN	F	CH	i-Pr	6-Cl	H	CN	r F	CH
t-Bu	6-Me	H	CN	F	CH	t-Bu	6-Cl	H		Cl	CH
Me	6-Me	H	OCHF <sub>2</sub>	C1	CH	Me	6-Cl	H	OCHF <sub>2</sub>		CH
Et	6-Me	H	OCHF <sub>2</sub>	C1	CH	Et	6-C1	H	OCHF <sub>2</sub>	C1	
i-Pr	6-Ме	H	OCHF <sub>2</sub>	C1	CH	<i>i</i> -Pr	6-C1	H	OCHF <sub>2</sub>	C1	CH
t-Bu	6-Ме	H	OCHF <sub>2</sub>	Cl	CH	t-Bu	6-Cl	H	OCHF <sub>2</sub>	C1	CH
Me	6-Ме	H	SCHF <sub>2</sub>	Cl	CH	Me	6-Cl	H	SCHF <sub>2</sub>	C1	CH
Et	6-Me	H	SCHF <sub>2</sub>	Cl	CH	Et	6-C1	H	SCHF <sub>2</sub>	C1	CH
i-Pr	6-Me	H	SCHF <sub>2</sub>	Cl	CH	<i>i-</i> Pr	6-Cl	H	SCHF <sub>2</sub>	Cl	CH
t-Bu	6-Me	H	SCHF <sub>2</sub>	Cl	CH	t-Bu	6-C1	H	SCHF <sub>2</sub>	Cl	CH
Me	6-Me	H	OCF <sub>3</sub>	Cl	CH	Me	6-CI	H	OCF <sub>3</sub>	C1	CH
Et	6-Me	H	OCF <sub>3</sub>	Cl	CH	Et	6-Cl	H	OCF <sub>3</sub>	Cl	CH
i-Pr	6-Me	H	OCF <sub>3</sub>	C1	CH	<i>i</i> -Pr	6-Cl	H	OCF <sub>3</sub>	Cl	CH
t-Bu	6-Me	H	OCF <sub>3</sub>	C1	CH	t-Bu	6-C1	H	OCF <sub>3</sub>	Cl	CH
Me	6-Me	H	SCF <sub>3</sub>	C1	CH	Me	6-C1	H	SCF <sub>3</sub>	C1	CH
Et	6-Me	H	SCF <sub>3</sub>	C1	CH	Et	6-C1	H	SCF <sub>3</sub>	C1	CH
i-Pr	6-Me	H	SCF <sub>3</sub>	Cl	CH	i-Pr	6-C1	H	SCF <sub>3</sub>	Cl	CH
t-Bu	6-Ме	$\mathbf{H}$	SCF <sub>3</sub>	Cl	CH	t-Bu	6-C1	H	SCF <sub>3</sub>	Cl	CH
Me	6-Me	$\mathbf{H}$	$C_2F_5$	Cl	CH	Me	6-C1	H	$C_2F_5$	C1	CH
Et	6-Me	H	$C_2F_5$	C1	CH	Et	6-C1	H	$C_2F_5$	Cl	CH
i-Pr	6-Ме	H	$C_2F_5$	Cl	CH	i-Pr	6-C1	H	$C_2F_5$	C1	CH
t-Bu	6-Me	H	$C_2F_5$	CI	CH	<i>t</i> -Bu	6-C1	H	$C_2F_5$	C1	CH
Me	6-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
i-Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	<i>i</i> -Pr	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CI	CH	t-Bu	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
i-Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>i</i> -Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	$\mathbf{H}$	CN	Cl	CH	Me	6-C1	H	CN	C1	CH
Et	6-Ме	Н	CN	C1	CH	Et	6-C1	H	CN	C1	CH
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<u>R</u> 3	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 6	<u>x</u>	<u>R</u> 3	$R^{4a}$	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
i-Pr	6-Ме	н	CN	Cl	CH	<i>i-</i> Pr	6-C1	н	CN	C1	CH
<i>t-</i> Bu	6-Me	н	CN	C1	СН	t-Bu	6-C1	Н	CN	C1	CH
Me	6-Me	H	OCHF <sub>2</sub>	Br	CH	Me	6-C1	H	OCHF <sub>2</sub>	Br	CH
Et	6-Me	H	OCHF <sub>2</sub>	Br	CH	Et	6-C1	н	OCHF <sub>2</sub>	Br	CH
<i>i</i> -Pr	6-Me	H	OCHF <sub>2</sub>	Br	СН	<i>i-</i> Pr	6-C1	H	$OCHF_2$	Br	CH
t-Bu	6-Ме	H	OCHF <sub>2</sub>	Br	CH	<i>t-</i> Bu	6-CI	H	$OCHF_2$	Br	CH
Me	6-Me	H	SCHF <sub>2</sub>	Br	CH	Me	6-C1	H	SCHF <sub>2</sub>	Br	CH
Et	6-Ме	$\mathbf{H}$	SCHF <sub>2</sub>	Br	CH	Et	6-C1	н	SCHF <sub>2</sub>	Br	CH
i-Pr	6-Me	H	SCHF <sub>2</sub>	Br	CH	i-Pr	6-C1	H	SCHF <sub>2</sub>	Br	CH
t-Bu	6-Me	H	SCHF <sub>2</sub>	Br	CH	t-Bu	6-Cl	H	SCHF <sub>2</sub>	Br	CH
Me	6-Me	H	OCF <sub>3</sub>	Br	CH	Me	6-C1	H	OCF <sub>3</sub>	Br	CH
Et	6-Me	H	OCF <sub>3</sub>	Br	CH	Et	6-C1	H	OCF <sub>3</sub>	Br	CH
i-Pr	6-Me	H	OCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	Br	CH
t-Bu	6-Me	H	OCF <sub>3</sub>	Br	CH	t-Bu	6-C1	H	OCF <sub>3</sub>	Br	CH
Me	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	Br	CH	Me	6-C1	H	SCF <sub>3</sub>	$\mathbf{Br}$	CH
Et	6-Me	H	SCF <sub>3</sub>	Br	CH	Et	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	Br	CH
<i>i</i> -Pr	6-Me	H	SCF <sub>3</sub>	Br	CH	i-Pr	6-C1	H	SCF <sub>3</sub>	Br	CH
t-Bu	6-Me	H	SCF <sub>3</sub>	Br	CH	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	Br	CH
Me	6-Me	H	$C_2F_5$	Br	CH	Me	6-C1	. <b>H</b>	$C_2F_5$	Br	CH
Et	6-Me	H	$C_2F_5$	Br	CH	Et	6-C1	H	$C_2F_5$	Br	CH
i-Pr	6-Me	H	$C_2F_5$	Br	CH	i-Pr	6-C1	$\mathbf{H}$	$C_2F_5$	Br	CH
t-Bu	6-Me	H	$C_2F_5$	Br	CH	<i>t</i> -Bu	6-C1	H	$C_2F_5$	Br	CH
Me	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	H	CN	Br	CH	Me	6-C1	H	CN	Br	CH
Et	6-Me	H	CN	Br	CH	Et	6-C1	H	CN	Br	CH
i-Pr	6-Me	Н	CN	Br	CH	i-Pr	6-C1	H	CN	Br	CH
t-Bu	6-Me	H	CN	Br	CH	t-Bu	6-C1	H	CN	Br	CH
Me	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>	<u>R</u> 3	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	X
t-Bu	6-Ме	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Ме	Н	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	$\mathbf{H}$	$SCHF_2$	$CF_3$	CH
Et	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	$SCHF_2$	CF <sub>3</sub>	CH
t-Bu	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	H	$SCHF_2$	CF <sub>3</sub>	CH
Me	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	Н	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	Me	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
Et	6-Me	H	$C_2F_5$	$CF_3$	CH	Et	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
i-Pr	6-Me	H	$C_2F_5$	$CF_3$	CH	i-Pr	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
t-Bu	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
Me	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH	Me	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
<i>i</i> -Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>ì-</i> Pr	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Ме	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	CN	CF <sub>3</sub>	CH	Me	6-C1	H	CN	CF <sub>3</sub>	CH
Et	6-Me	H	CN	$CF_3$	CH	Et	6-C1	H	CN	CF <sub>3</sub>	CH
i-Pr	6-Me	H	CN	CF <sub>3</sub>	CH	i-Pr	6-C1	H	CN	CF <sub>3</sub>	CH
t-Bu	6-Me	H	CN	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	CN	CF <sub>3</sub>	CH
Me	6-Me	Cl	OCHF <sub>2</sub>	F	CH	Me	6-C1	C1	OCHF <sub>2</sub>	F	CH
Et	6-Me	C1	$OCHF_2$	F	CH	Et	6-C1	Cl	OCHF <sub>2</sub>	F	CH
<i>i-</i> Pr	6-Me	C1	OCHF <sub>2</sub>	F	CH	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	F	CH
t-Bu	6-Me	C1	OCHF <sub>2</sub>	F	CH	t-Bu	6-C1	Cl	OCHF <sub>2</sub>	F	CH
Me	6-Me	C1	SCHF <sub>2</sub>	F	CH	Me	6-C1	Cl	SCHF <sub>2</sub>	F	CH
Et	6-Me	C1	$SCHF_2$	F	CH	Et	6-C1	C1	SCHF <sub>2</sub>	F	CH
<i>i-</i> Pr	6-Me	C1	SCHF <sub>2</sub>	F	CH	<i>i-</i> Pr	6-C1	C1	SCHF <sub>2</sub>	F	CH
t-Bu	6-Ме	C1	SCHF <sub>2</sub>	F	CH	<i>t-</i> Bu	6-C1	C1	SCHF <sub>2</sub>	F	CH

<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
Me	6-Ме	C1	OCF <sub>3</sub>	F	CH	Me	6-Cl	C1	OCF <sub>3</sub>	F	CH
Et	6-Ме	Cl	OCF <sub>3</sub>	F	CH	Et	6-Cl	C1	OCF <sub>3</sub>	F	CH
i-Pr	6-Me	C1	$OCF_3$	F	CH	i-Pr	6-C1	C1	OCF <sub>3</sub>	F	CH
t-Bu	6-Me	C1	OCF <sub>3</sub>	F	CH	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	F	CH
Me	6-Me	C1	SCF <sub>3</sub>	F	CH	Me	6-C1	C1	SCF <sub>3</sub>	F	CH
Et	6-Me	C1	SCF <sub>3</sub>	F	CH	Et	6-C1	C1	SCF <sub>3</sub>	F	CH
i-Pr	6-Ме	C1	SCF <sub>3</sub>	F	CH	i-Pr	6-C1	C1	SCF <sub>3</sub>	$\mathbf{F}$	CH
t-Bu	6-Me	Cl	SCF <sub>3</sub>	F	CH	<i>t</i> -Bu	6-C1	C1	SCF <sub>3</sub>	F	CH
Me	6-Me	C1	$C_2F_5$	F	CH	Me .	6-C1	Cl	$C_2F_5$	F	CH
Et	6-Me	Cl	$C_2F_5$	F	CH	Et	6-C1	C1	$C_2F_5$	F	CH
<i>i-</i> Pr	6-Me	Cl	$C_2F_5$	F	CH	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	F	CH
t-Bu	6-Me	C1	$C_2F_5$	F	CH	<i>t-</i> Bu	6-C1	C1	$C_2F_5$	F	CH
Me	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
<i>i-</i> Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	CH	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	Cl	CN	F	CH	Me	6-C1	C1	CN	F	CH
Et	6-Me	Cl	CN	F	CH	Et	6-C1	C1	CN	F	CH
i-Pr	6-Me	C1	CN	F	CH	<i>i-</i> Pr	6-C1	C1	CN	F	CH
t-Bu	6-Me	C1	CN	F	CH	<i>t</i> -Bu	6-C1	C1	CN	F	CH
Me	6-Me	Cl	OCHF <sub>2</sub>	Cl	CH	Me	6-C1	C1	$OCHF_2$	Cl	CH
Et	6-Me	Cl	OCHF <sub>2</sub>	Cl	CH	Et	6-C1	C1	$OCHF_2$	C1	CH
i-Pr	6-Me	Cl	OCHF <sub>2</sub>	Cl	CH	<i>i-</i> Pr	6-C1	C1	$OCHF_2$	C1	CH
t-Bu	6-Me	Cl	OCHF <sub>2</sub>	Cl	CH	<i>t</i> -Bu	6-C1	Cl	OCHF <sub>2</sub>	C1	CH
Me	6-Me	Cl	SCHF <sub>2</sub>	Cl	CH	Me	6-C1	Cl	SCHF <sub>2</sub>	C1	CH
Et	6-Me	C1	SCHF <sub>2</sub>	Cl	CH	Et	6-C1	C1	SCHF <sub>2</sub>	C1	CH
<i>i-</i> Pr	6-Me	Cl	SCHF <sub>2</sub>	Cl	CH	<i>i-</i> Pr	6-C1	C1	SCHF <sub>2</sub>	C1	CH
t-Bu	6-Me	Cl	SCHF <sub>2</sub>	CÏ	CH	<i>t</i> -Bu	6-C1	C1	SCHF <sub>2</sub>	CI	CH
Me	6-Me	CI	OCF <sub>3</sub>	C1	CH	Me	6-C1	Cl	OCF <sub>3</sub>	Cl	CH
Et	6-Me	C1	OCF <sub>3</sub>	Cl	CH	Et	6-C1	Cl	OCF <sub>3</sub>	Cl	CH
<i>i-</i> Pr	6-Ме	C1	OCF <sub>3</sub>	Cl	CH	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	C1	CH
t-Bu	6-Me	Cl	OCF <sub>3</sub>	Cl	CH	t-Bu	6-C1	Cl	OCF <sub>3</sub>	Cl	CH
Me	6-Me	C1	SCF <sub>3</sub>	Cl	CH	Me	6-C1	Cl	SCF <sub>3</sub>	Cl	CH

<u>R</u> 3	$\underline{R^{4a}}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
Et	6-Me	C1	SCF <sub>3</sub>	C1	CH	Et	6-C1	C1	SCF <sub>3</sub>	C1	CH
<i>i-</i> Pr	6-Me	Cl	SCF <sub>3</sub>	C1	CH	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	C1	CH
t-Bu	6-Ме	Cl	SCF <sub>3</sub>	<b>C</b> 1	CH	t-Bu	6-C1	C1	SCF <sub>3</sub>	C1	CH
Me	6-Me	C1	$C_2F_5$	C1	CH	Me	6-C1	<b>C</b> 1	$C_2F_5$	C1	CH
Et	6-Ме	C1	$C_2F_5$	C1	CH	Et	6-C1	C1	$C_2F_5$	Cl	CH
i-Pr	6-Me	C1	$C_2F_5$	C1	CH	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	Cl	CH
t-Bu	6-Me	C1	$C_2F_5$	Cl	CH	t-Bu	6-C1	Cl	$C_2F_5$	C1	CH
Me	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Et	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
i-Pr	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	i-Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
t-Bu	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>t</i> -Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	6-C1	CI	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH
i-Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	i-Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>t</i> -Bu	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	C1	CN	C1	CH	Me	6-C1	C1	CN	C1	CH
Et	6-Me	Cl	CN	Cl	CH	Et	6-C1	C1	CN	C1	CH
i-Pr	6-Ме	Cl	CN	C1,	CH	<i>i-</i> Pr	6-C1	Cl	CN	Cl	CH
t-Bu	6-Me	C1	CN	C1	CH	<i>t-</i> Bu	6-C1	C1	CN	C1	CH
Me	6-Ме	C1	OCHF <sub>2</sub>	Br	CH	Me	6-C1	C1	OCHF <sub>2</sub>	Br	CH
Et	6-Me	C1	OCHF <sub>2</sub>	Br	CH	Et	6-Cl	C1	OCHF <sub>2</sub>	Br	CH
i-Pr	6-Me	C1	OCHF <sub>2</sub>	Br	СН	i-Pr	6-C1	Cl	OCHF <sub>2</sub>	Br	CH
<i>t</i> -Bu	6-Me	Cl	OCHF <sub>2</sub>	Br	CH	t-Bu	6-Cl	C1	OCHF <sub>2</sub>	Br	CH
Me	6-Ме	C1	SCHF <sub>2</sub>	Br	CH	Me	6-C1	Cl	SCHF <sub>2</sub>	Br	CH
Et	6-Me	C1	SCHF <sub>2</sub>	Br	CH	Et	6-C1	Cl	SCHF <sub>2</sub>	Br	CH
i-Pr	6-Ме	C1	SCHF <sub>2</sub>	Br	CH	<i>i-</i> Pr	6-C1	C1	SCHF <sub>2</sub>	Br	CH
t-Bu	6-Ме	Cl	SCHF <sub>2</sub>	Br	CH	t-Bu	6-Cl	Cl	SCHF <sub>2</sub>	Br	CH
Me	6-Me	C1	OCF <sub>3</sub>	Br	CH	Me	6-Cl	Cl	OCF <sub>3</sub>	Br	CH
Et	6-Me	C1	OCF <sub>3</sub>	Br	CH	Et	6-C1	C1	OCF <sub>3</sub>	Br	CH
<i>i</i> -Pr	6-Me	C1	OCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-Cl	Cl	OCF <sub>3</sub>	Br	CH
t-Bu	6-Me	Cl	OCF <sub>3</sub>	Br	CH	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	Br	CH
Me	6-Ме	C1	SCF <sub>3</sub>	Br	CH	Me	6-C1	C1	SCF <sub>3</sub>	Br	CH
Et	6-Me	C1	SCF <sub>3</sub>	Br	CH	Et	6-Cl	Cl	SCF <sub>3</sub>	Br	CH
i-Pr	6-Me	CI	SCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	Br	CH
t-Bu	6-Me	Cl	SCF <sub>3</sub>	Br	CH	<i>t</i> -Bu	6-Cl	Cl	SCF <sub>3</sub>	Br	CH
Me	6-Me	Cl	$C_2F_5$	Br	CH	Me	6-C1	Cl	$C_2F_5$	Br	CH
Et	6-Me	C1	$C_2F_5$	Br	CH	Et	6-C1	C1	$C_2F_5$	Br	CH

<u>R<sup>3</sup></u>	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 6	<u>X</u>	R <sup>3</sup>	$R^{4a}$	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
<i>i-</i> Pr	6-Ме	C1	$C_2F_5$	Br	CH	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	Br	CH
<i>t</i> -Bu	6-Me	C1	$C_2F_5$	Br	CH	<i>t-</i> Bu	6-C1	C1	$C_2F_5$	Br	CH
Me	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Ме	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i</i> -Pr	6-Ме	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	СН	<i>i-</i> Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	СН	<i>t</i> -Bu	6-Cl	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	$\mathbf{Br}$	CH	Me	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	$\mathbf{Br}$	CH
Et	6-Ме	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t</i> -Bu	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	C1	CN	Br	CH	Me	6-C1	Cl	CN	Br	CH
Et	6-Me	C1	CN	Br	CH	Et	6-C1	Cl	CN	Br	CH
i-Pr	6-Me	C1	CN	Br	CH	<i>i-</i> Pr	6-C1	C1	CN	Br	CH
t-Bu	6-Me	C1	CN	Br	CH	t-Bu	6-C1	C1	CN	Br	CH
Me	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
i-Pr	6-Ме	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	$OCHF_2$	CF <sub>3</sub>	CH
t-Bu	6-Me	Cl	$OCHF_2$	CF <sub>3</sub>	CH	t-Bu	6-C1	C1	$OCHF_2$	CF <sub>3</sub>	CH
Me	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i</i> -Pr	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Ме	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Ме	C1	$C_2F_5$	CF <sub>3</sub>	CH	Me	6-C1	C1	$C_2F_5$	CF <sub>3</sub>	CH
Et	6-Ме	C1	$C_2F_5$	CF <sub>3</sub>	CH	Et	6-C1	C1	$C_2F_5$	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	CH	<i>i</i> -Pr	6-Cl	Cl	$C_2F_5$	CF <sub>3</sub>	CH
<i>t-</i> Bu	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	CH	<i>t-</i> Bu	6-C1	Cl .	$C_2F_5$	CF <sub>3</sub>	CH
Me –	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	CI	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Ме	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{x}}$
t-Bu	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	6-Ме	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Ме	C1	CN	CF <sub>3</sub>	CH	Me	6-C1	C1	CN	CF <sub>3</sub>	CH
Et	6-Ме	Cl	CN	CF <sub>3</sub>	CH	Et	6-C1	Cl	CN	CF <sub>3</sub>	CH
i-Pr	6-Me	CI	CN	$CF_3$	CH	<i>i-</i> Pr	6-C1	C1	CN	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	CN	CF <sub>3</sub>	CH	t-Bu	6-C1	Cl	CN	$CF_3$	CH
Me	6-Ме	H	OCHF <sub>2</sub>	F	CF	Me	6- <b>C</b> 1	н	OCHF <sub>2</sub>	F	CF
Et	6-Me	H	OCHF <sub>2</sub>	F	CF	Et	6-C1	H	OCHF <sub>2</sub>	F	CF
i-Pr	6-Me	H	OCHF <sub>2</sub>	F	CF	<i>i-</i> Pr	6-Cl	H	OCHF <sub>2</sub>	F	CF
t-Bu	6-Ме	$\mathbf{H}$	$OCHF_2$	F	CF	<i>t</i> -Bu	6-C1	$\mathbf{H}$	$OCHF_2$	F	CF
Me	6-Me	H	$SCHF_2$	F	CF	Me	6-C1	H	SCHF <sub>2</sub>	F	CF
Et	6-Me	H	SCHF <sub>2</sub>	F	CF	Et	6-C1	H	SCHF <sub>2</sub>	F	CF
i-Pr	6-Me	H	SCHF <sub>2</sub>	F	CF	<i>i-</i> Pr	6-Cl	H	SCHF <sub>2</sub>	F	CF
t-Bu	6-Me	H	SCHF <sub>2</sub>	F	CF	t-Bu	6-C1	H	SCHF <sub>2</sub>	F	CF
Me	6-Me	H	OCF <sub>3</sub>	F	CF	Me	6-C1	H	OCF <sub>3</sub>	F	CF
Et	6-Me	H	OCF <sub>3</sub>	F	CF	Et	6-C1	H	OCF <sub>3</sub>	F	CF
i-Pr	6-Me	H	OCF <sub>3</sub>	F	CF	i-Pr	6-C1	H	OCF <sub>3</sub>	F	CF
t-Bu	6-Me	H	OCF <sub>3</sub>	F	CF	t-Bu	6-C1	H	OCF <sub>3</sub>	F	CF
Me	6-Me	H	SCF <sub>3</sub>	F	CF	Me	6-C1	H	SCF <sub>3</sub>	F	CF
Et	6-Me	H	SCF <sub>3</sub>	F	CF	Et	6-C1	H	SCF <sub>3</sub>	F	CF
<i>i-</i> Pr	6-Me	H	SCF <sub>3</sub>	F	CF	<i>i-</i> Pr	6-Cl	H	SCF <sub>3</sub>	F	CF
t-Bu	6-Ме	H	SCF <sub>3</sub>	F	CF	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	F	CF
Me	6-Ме	H	$C_2F_5$	F	CF	Me	6-C1	H	$C_2F_5$	F	CF
Et	6-Me	H	$C_2F_5$	F	CF	Et	6-C1	H	$C_2F_5$	F	CF
i-Pr	6-Ме	H	$C_2F_5$	F	CF	<i>i-</i> Pr	6-C1	H	$C_2F_5$	F	CF
t-Bu	6-Me	H	$C_2F_5$	F	CF	<i>t</i> -Bu	6-C1	H	$C_2F_5$	F	CF
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF
<i>i-</i> Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	i-Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	t-Bu	6-Cl	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CF
Me	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF
Et	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-Cl	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF	i-Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF

<u>R<sup>3</sup></u>	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
Me	6-Ме	H	CN	F	CF	Me	6-C1	$\mathbf{H}$	CN	F	CF
Et	6-Ме	H	CN	F	CF	Et	6-C1	H	CN	F	CF
<i>i</i> -Pr	6-Ме	H	CN	F	CF	<i>i</i> -Pr	6-C1	Н	CN	$\mathbf{F}$	CF
t-Bu	6-Ме	$\mathbf{H}$	CN	F	CF	t-Bu	6-C1	H	CN	F	CF
Me	6-Me	H	OCHF <sub>2</sub>	Cl	CCI	Me	6-C1	Н	OCHF <sub>2</sub>	Cl	CC1
Et	6-Me	H	OCHF <sub>2</sub>	Cl	CCl	Et	6-C1	Н	OCHF <sub>2</sub>	Cl	CC1
<i>i-</i> Pr	6-Me	H	OCHF <sub>2</sub>	Cl	CC1	i-Pr	6-C1	H	OCHF <sub>2</sub>	Cl	CCI
t-Bu	6-Me	H	OCHF <sub>2</sub>	C1	CC1	<i>t</i> -Bu	6-C1	H	OCHF <sub>2</sub>	Cl	CCI
Me	6-Ме	H	SCHF <sub>2</sub>	Cl	CCl	Me	6-C1	H	SCHF <sub>2</sub>	C1	CC1
Et	6-Me	H	SCHF <sub>2</sub>	C1	CC1	Et	6-C1	H	SCHF <sub>2</sub>	C1	CC1
<i>i</i> -Pr	6-Me	H	SCHF <sub>2</sub>	C1	CC1	i-Pr	6-C1	H	SCHF <sub>2</sub>	C1	CC1
t-Bu	6-Me	H	SCHF <sub>2</sub>	Cl	CCl	t-Bu	6-C1	H	SCHF <sub>2</sub>	C1	CC1
Me	6-Me	H	OCF <sub>3</sub>	C1	CC1	Ме	6-C1	H	OCF <sub>3</sub>	Cl	CC1
Et	6-Me	H	OCF <sub>3</sub>	<b>C</b> 1	CC1	Et	6-C1	H	OCF <sub>3</sub>	C1	CC1
i-Pr	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	Cl	CCI	i-Pr	6-C1	H	OCF <sub>3</sub>	Cl	CC1
t-Bu	6-Ме	H	OCF <sub>3</sub>	C1	CC1	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	C1	CC1
Me	6-Me	H	SCF <sub>3</sub>	Cl	CCI	Me	6-CI	H	SCF <sub>3</sub>	C1	CCI
Et	6-Me	H	SCF <sub>3</sub>	C1	CC1	Et	6-C1	H	SCF <sub>3</sub>	<b>C</b> 1	CC1
<i>i-</i> Pr	6-Ме	H	SCF <sub>3</sub>	Cl	CC1	i-Pr	6-C1	H	SCF <sub>3</sub>	C1	CC1
t-Bu	6-Me	H	SCF <sub>3</sub>	Cl	CC1	t-Bu	6-C1	H	SCF <sub>3</sub>	C1	CC1
Me	6-Me	H	$C_2F_5$	C1	CC1	Me	6-C1	H	$C_2F_5$	Cl	CC1
Et	6-Ме	H	$C_2F_5$	C1	CC1	Et	6-C1	$\mathbf{H}$	$C_2F_5$	Cl	CC1
<i>i-</i> Pr	6-Ме	H	$C_2F_5$	Cl	CCI	<i>i-</i> Pr	6-C1	H	$C_2F_5$	C1	CCI
t-Bu	6-Me	H	$C_2F_5$	Cl	CC1	t-Bu	6-C1	H	$C_2F_5$	Cl	CC1
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CCl	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CCI
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CCl	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CCI
<i>i-</i> Pr	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CC1	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CC1
t-Bu	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CCI	t-Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CC1
Me	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CCI	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CC1
Et	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CC1	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CCI
<i>i-</i> Pr	6-Ме	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CCI	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CCI
t-Bu	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CC1	t-Bu	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CC1
Me	6-Ме	H	CN	C1	CC1	Me	6-C1	H	CN	C1	CC1
Et	6-Ме	H	CN	C1	CC1	Et	6-C1	H	CN	Cl	CC1
<i>i-</i> Pr	6-Me	H	CN	C1	CCI	<i>i</i> -Pr	6-Cl	Н	CN	C1	CCl
t-Bu	6-Me	H	CN	Cl	CC1	t-Bu	6-C1	Н	CN	C1	CCl
Me	3-Me	H	OCHF <sub>2</sub>	F	CH	Me	3-C1	H	OCHF <sub>2</sub>	F	CH

<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	<u>R</u> 4a	R4b	<u>R</u> 7	<u>R</u> 6	<u>X</u>
Et	3-Me	H	OCHF <sub>2</sub>	F	СН	Et	3-C1	H	OCHF <sub>2</sub>	F	CH
i-Pr	3-Me	$\mathbf{H}$	OCHF <sub>2</sub>	F	CH	<i>i-</i> Pr	3-C1	Н	OCHF <sub>2</sub>	F	CH
t-Bu	3-Me	H	OCHF <sub>2</sub>	F	CH	t-Bu	3-C1	H	OCHF <sub>2</sub>	F	CH
Me	3-Me	$\mathbf{H}$	SCHF <sub>2</sub>	$\boldsymbol{F}$	CH	Me	3-C1	H	SCHF <sub>2</sub>	F	CH
Et	3-Me	H	SCHF <sub>2</sub>	F	CH	Et	3-C1	H	SCHF <sub>2</sub>	F	CH
i-Pr	3-Me	H	SCHF <sub>2</sub>	$\mathbf{F}$	CH	<i>i-</i> Pr	3-C1	H	SCHF <sub>2</sub>	F	CH
t-Bu	3-Me	H	SCHF <sub>2</sub>	F	CH	t-Bu	3-C1	H	SCHF <sub>2</sub>	F	CH
Me	3-Me	H	OCF <sub>3</sub>	F	CH	Me	3-C1	H	OCF <sub>3</sub>	F	CH
Et	3-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	CH	Et	3-C1	H	OCF <sub>3</sub>	F	CH
i-Pr	3-Me	H	OCF <sub>3</sub>	F	CH	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	F	CH
t-Bu	3-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	CH	t-Bu	3-C1	H	OCF <sub>3</sub>	F	CH
Me	3-Me	$\mathbf{H}$	SCF <sub>3</sub>	F	CH	Me	3-C1	H	SCF <sub>3</sub>	F	CH
Et	3-Me	$\mathbf{H}$	SCF <sub>3</sub>	F	CH	Et	3~C1	H	SCF <sub>3</sub>	F	CH
<i>i-</i> Pr	3-Ме	H	SCF <sub>3</sub>	F	CH	i-Pr	3-C1	H	SCF <sub>3</sub>	F	CH
t-Bu	3-Me	H	SCF <sub>3</sub>	F	CH	t-Bu	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	F	CH
Me	3-Me	Н	$C_2F_5$	F	CH	Me	3-C1	H	$C_2F_5$	F	CH
Et	3-Me	H	$C_2F_5$	F	CH	Et	3-C1	$\mathbf{H}$	$C_2F_5$	F	CH
<i>i-</i> Pr	3-Me	H	$C_2F_5$	F	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	$C_2F_5$	F	CH
t-Bu	3-Me	H	$C_2F_5$	F	CH	<i>t-</i> Bu	3-C1	H	$C_2F_5$	$\mathbf{F}$	CH
Me	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Me	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	3-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	i-Pr	3-CI	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	t-Bu	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Me	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Et	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
<i>i-</i> Pr	3-Me	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	3-Me	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	t-Bu	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	3-Me	H	CN	F	CH	Me	3-C1	H	CN	F	CH
Et	3-Me	H	CN	F	CH	Et	3-C1	H	CN	F	CH
i-Pr	3-Me	H	CN	F	CH	<i>i-</i> Pr	3-C1	H	CN	F	CH
t-Bu	3-Me	H	CN	F	CH	<i>t-</i> Bu	3-C1	H	CN	F	CH
Me	3-Me	H	OCHF <sub>2</sub>	C1	CH	Me	3-C1	H	OCHF <sub>2</sub>	C1	CH
Et	3-Me	$\mathbf{H}$	OCHF <sub>2</sub>	C1	CH	Et	3-C1	H	OCHF <sub>2</sub>	C1	CH
i-Pr	3-Me	$\mathbf{H}$	OCHF <sub>2</sub>	<b>C</b> 1	CH	<i>i-</i> Pr	3-C1	H	OCHF <sub>2</sub>	Cl	CH
t-Bu	3-Me	H	OCHF <sub>2</sub>	C1	CH	t-Bu	3-C1	H	OCHF <sub>2</sub>	CI	CH
Me	3-Me	H	SCHF <sub>2</sub>	Cl	CH	Me	3-C1	H	SCHF <sub>2</sub>	CI	CH
Et	3-Me	H	SCHF <sub>2</sub>	Cl	CH	Et	3-C1	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CH

<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
i-Pr	3-Me	H	SCHF <sub>2</sub>	C1	CH	<i>i</i> -Pr	3-C1	н	SCHF <sub>2</sub>	C1	CH
t-Bu	3-Me	H	SCHF <sub>2</sub>	<b>C</b> 1	CH	t-Bu	3-C1	H	SCHF <sub>2</sub>	C1	CH
Me	3-Me	$\mathbf{H}$	OCF <sub>3</sub>	C1	CH	Me	3-C1	H	OCF <sub>3</sub>	C1	CH
Et	3-Me	$\mathbf{H}$	OCF <sub>3</sub>	Cl	CH	Et	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	Cl	CH
i-Pr	3-Me	$\mathbf{H}$	OCF <sub>3</sub>	C1	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	C1	CH
t-Bu	3-Me	H	OCF <sub>3</sub>	C1	CH	t-Bu	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	C1	CH
Me	3-Me	H	SCF <sub>3</sub>	C1	CH	Me	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	C1	CH
Et	3-Me	H	SCF <sub>3</sub>	C1	CH	Et	3-C1	H	SCF <sub>3</sub>	C1	CH
i-Pr	3-Me	H	SCF <sub>3</sub>	C1	CH	i-Pr	3-C1	H	SCF <sub>3</sub>	Cl	CH
t-Bu	3-Me	H	SCF <sub>3</sub>	Cl	CH	t-Bu	3-C1	H	SCF <sub>3</sub>	Ci	CH
Me	3-Me	H	$C_2F_5$	Cl	CH	Me	3-C1	H	$C_2F_5$	Cl	CH
Et	3-Me	H	$C_2F_5$	C1	CH	Et	3-C1	H	$C_2F_5$	Cl	CH
<i>i-</i> Pr	3-Me	H	$C_2F_5$	C1	CH	<i>i-</i> Pr	3-C1	H	$C_2F_5$	Cl	CH
t-Bu	3-Me	$\mathbf{H}$	$C_2F_5$	Cl	CH	<i>t</i> -Bu	3-C1	H	$C_2F_5$	Cl	CH
Me	3-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	3-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH
i-Pr	3-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	· C1	CH	i-Pr	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
t-Bu	3-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	t-Bu	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	3-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
i-Pr	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	i-Pr	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH
t-Bu	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	t-Bu	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	3-Me	H	CN	Cl	CH	Me	3-C1	Н	CN	C1	CH
Et	3-Me	H	CN	Cl	CH	Et	3-C1	H	CN	C1	CH
<i>i</i> -Pr	3-Me	H	CN	C1	CH	<i>i-</i> Pr	3-C1	H	CN	C1	CH
t-Bu	3-Ме	H	CN	Cl	CH	<i>t-</i> Bu	3-C1	H	CN	Cl	CH
Me	3-Me	H	OCHF <sub>2</sub>	Br	СН	Me	3-C1	H	OCHF <sub>2</sub>	Br	CH
Et	3-Me	H	OCHF <sub>2</sub>	Br	СН	Et	3-C1	H	OCHF <sub>2</sub>	Br	CH
<i>i-</i> Pr	3-Me	H	OCHF <sub>2</sub>	Br	CH	<i>i-</i> Pr	3-C1	H	OCHF <sub>2</sub>	Br	CH
t-Bu	3-Me	H	OCHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	3-C1	H	OCHF <sub>2</sub>	Br	CH
Me	3-Me	H	SCHF <sub>2</sub>	Br	СН	Me	3-C1	H	SCHF <sub>2</sub>	Br	CH
Et	3-Me	H	SCHF <sub>2</sub>	Br	CH	Et	3-C1	H	SCHF <sub>2</sub>	Br	CH
<i>i-</i> Pr	3-Me	H	SCHF <sub>2</sub>	Br	CH	<i>i</i> -∙Pr	3-C1	H	SCHF <sub>2</sub>	Br	CH
t-Bu	3-Me	H	SCHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	3-C1	H	SCHF <sub>2</sub>	Br	CH
Me	3-Me	H	OCF <sub>3</sub>	Br	CH	Me	3-C1	H	OCF <sub>3</sub>	Br	CH
Et	3-Me	H	OCF <sub>3</sub>	Br	СН	Et	3-C1	H	OCF <sub>3</sub>	Br	CH
<i>i-</i> Pr	3-Me	H	OCF <sub>3</sub>	Br	СН	<i>i-</i> Pr	3-C1	Н	OCF <sub>3</sub>	Br	CH

$\underline{\mathbb{R}^3}$	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
t-Bu	3-Ме	Н	OCF <sub>3</sub>	Br	CH	<i>t</i> -Bu	3-C1	Н	OCF <sub>3</sub>	Br	CH
Me	3-Ме	H	SCF <sub>3</sub>	Br	CH	Me	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	Br	CH
Et	3-Me	H	SCF <sub>3</sub>	Br	CH	Et	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	Br	CH
<i>i</i> -Pr	3-Me	H	SCF <sub>3</sub>	Br	CH	i-Pr	3-C1	H	SCF <sub>3</sub>	Br	CH
t-Bu	3-Me	H	SCF <sub>3</sub>	Br	CH	<i>t</i> -Bu	3-C1	H	SCF <sub>3</sub>	Br	CH
Me	3-Me	H	$C_2F_5$	Br	CH	Ме	3-C1	H	$C_2F_5$	Br	CH
Et	3-Me	H	$C_2F_5$	Br	CH	Et	3-C1	H	$C_2F_5$	Br	CH
i-Pr	3-Me	H	$C_2F_5$	Br	CH	<i>i-</i> Pr	3-C1	H	$C_2F_5$	Br	CH
t-Bu	3-Me	H	$C_2F_5$	Br	CH	<i>t</i> -Bu	3-C1	H	$C_2F_5$	Br	CH
Me	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	3-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	3-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	3-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
i-Pr	3-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	3-Me	H	CN	Br	CH	Me	3-C1	H	CN	Br	CH
Et	3-Me	H	CN	Br	CH	Et	3-C1	$\mathbf{H}$	CN	Br	CH
i-Pr	3-Me	H	CN	Br	CH	<i>i-</i> Pr	3-C1	H	CN	Br	CH
t-Bu	3-Me	H	CN	Br	CH	<i>t-</i> Bu	3-C1	H	CN	Br	CH
Me	3-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	3-C1	$\mathbf{H}$	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	3-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	3-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
i-Pr	3-Me	Н	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	3-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	3-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	3-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	3-Me	$\mathbf{H}$	SCHF <sub>2</sub>	$CF_3$	CH	Me	3-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	3-Me	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	3-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
i-Pr	3-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	3-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	3-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	t-Bu	3-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>	CH
i-Pr	3-Ме	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t-</i> Bu	3-C1	Н	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	3-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Ме	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	3-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
i-Pr	3-Ме	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i</i> -Pr	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	3-Ме	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH

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Table 4

$$R^{4b}$$
 $R^{4a}$ 
 $NH$ 
 $R^{3}$ 

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<u>R</u>4b R<sup>4a</sup> R4b  $R^7$  $\mathbb{R}^3$ <u>R6</u> R<sup>4a</sup> R4b  $R^7$ <u>R</u>3 R6  $R^{4a}$ <u>R</u>7  $\mathbb{R}^3$ R6  $CH_3$ F Cl Me Cl C1F Cl Me Cl Br F Cl Me Cl F Et Cl C1 F Cl Εt Cl F Cl Cl  $CH_3$ Cl Br Et CH<sub>3</sub> F C1 *i*-Pr C1Cl F Cl i-Pr Cl Br  $\mathbf{F}$ Cl *i-*Pr Cl F Cl C1 t-Bu F Cl t-Bu CH3 Cl t-Bu F Cl C1 Br Cl CH<sub>3</sub> F Cl Me Br Cl  $\mathbf{F}$ Cl Me Br Br  $\mathbf{F}$ CI Me Br CH<sub>3</sub> C1  $\mathbf{F}$ C1 Et C1 F C1 Et F Et Br Br BrBr F i-Pr Br C1 F i-Pr F CI i-Pr CH<sub>3</sub> C1 Cl Br Br Br F t-Bu C1 F Cl t-Bu F Cl t-Bu CH<sub>3</sub> C1 Br Br Br Br F C1C1 Cl F Br C1 CH<sub>3</sub> Br Me F Br Me Br Me F Cl CH<sub>3</sub> Br Et Cl C1 F Br Et Br F Br Et Cl i-Pr C1 Cl F i-Pr Cl F i-Pr Cl CH<sub>3</sub> F Br Br BrBr F Cl CI F Cl F CI CH<sub>3</sub> Br t-Bu Br t-Bu Br Br t-Bu  $\mathbf{F}$ F CH<sub>3</sub> Br Me Br Cl BrMe Br Br F Br Me Br CH<sub>3</sub> F Et Br Cl F Br Εt Br Br F Br Et Br Br CH<sub>3</sub> F Bri-Pr BrC1  $\mathbf{F}$ Br *i*-Pr Br Br F Br*i-*Pr Br CH<sub>3</sub> F t-Bu C1 F t-Bu F  $\mathbf{Br}$ t-Bu BrBr Br Br BrBr CF<sub>3</sub> Cl Cl Cl C1 C1 C1 CF<sub>3</sub> CH<sub>3</sub> CF<sub>3</sub> Me Me Br Me Cl CF<sub>3</sub> CH<sub>3</sub> Cl CF<sub>3</sub> Et C1Cl Cl CF<sub>3</sub> Et Cl BrCl Et Cl C1 CF<sub>3</sub> i-Pr C1Cl CF<sub>3</sub> CH<sub>3</sub> Cl CF<sub>3</sub> *i*-Pr Cl Br Cl i-Pr C1 CH<sub>3</sub> Cl CF<sub>3</sub> t-Bu Cl C1 C1 CF<sub>3</sub> t-Bu C1Br Cl CF<sub>3</sub> t-Bu Cl CH<sub>3</sub> C1 CF<sub>3</sub> Cl Cl CF<sub>3</sub> Cl CF<sub>3</sub> Me Br Me Br Br Me Br  $CH_3$ Cl CF<sub>3</sub> Et Br C1 CF<sub>3</sub> C1 CF<sub>3</sub> C1 Et Br Br Et BrCH<sub>3</sub> C1 CF<sub>3</sub> i-Pr Cl CF<sub>3</sub> i-Pr CF<sub>3</sub> Br C1 Br Br C1 i-Pr Br CF<sub>3</sub> C1 CH<sub>3</sub> CF<sub>3</sub> t-Bu Cl C1 CF<sub>3</sub> t-Bu C1 t-Bu Br Br Br Br C1 C1 Cl C1 Cl Cl Cl Cl C1 CH<sub>3</sub> Me Me BrMe Cl CH<sub>3</sub> C1C1 Et Cl Cl C1 Cl Et C1 Br C1 C1 Εt Cl CH<sub>3</sub> Cl C1 Cl C1 i-Pr C1 C1 Cl Cl i-Pr C1 Br i-Pr Cl CH<sub>3</sub> C1 C1 t-Bu Cl C1 CI Cl t-Bu Cl Br Cl C1t-Bu Cl CH<sub>3</sub> C1C1 Me Br Cl Cl Cl Me Br BrCl C1 Me Br Cl C1 Et BrC1 C1 C1Et Cl Cl Et CH<sub>3</sub>  $\mathbf{Br}$ Br Br CH<sub>3</sub> C1Cl i-Pr Br C1 C1 Cl i-Pr Br Br C1 Cl i-Pr Br C1 Br C1 t-Bu C1 C1 t-Bu Br Cl C1 Cl t-Bu Br Br CH<sub>3</sub> CH<sub>3</sub> C1BrMe Cl Cl C1 Br Me C1Br C1Br Me Cl Cl Cl C1 BrEt C1 CH<sub>3</sub> C1 BrEt C1 Cl Et Br Br C1 C1Cl C1 i-Pr Cl Cl Br i-Pr C1 CH<sub>3</sub> Bri-Pr Br Br Cl Cl Brt-Bu Cl CHa C1 Br t-Bu Cl C1 C1 Brt-Bu Br C1 Cl Cl Br C1 BrMe Br CH3 Br Br BrMe Br Me

$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	$\underline{\mathbb{R}^3}$	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	$\underline{\mathbb{R}^3}$	<u>R</u> 6	<u>R<sup>4a</sup></u>	$\underline{R^{4b}}$	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6
CH <sub>3</sub>	Cl	Br	Et	Br	C1	Cl	Br	Et	Br	Br	C1	Br	Et	Br
CH <sub>3</sub>	C1	Br	i-Pr	Br	Cl	C1	Br	i-Pr	Br	Br	Cl	Br	i-Pr	Br
CH <sub>3</sub>	C1	Br	t-Bu	Br	Cl	Cl	Br	t-Bu	Br	Br	C1	Br	t-Bu	Br
CH <sub>3</sub>	Br	CF <sub>3</sub>	Me	C1	Cl	Br	CF <sub>3</sub>	Me	C1	Br	Br	CF <sub>3</sub>	Me	Cl
$CH_3$	Br	CF <sub>3</sub>	Et	Cl	Cl	Br	CF <sub>3</sub>	Et	C1	Br	Br	CF <sub>3</sub>	Et	Cl
$CH_3$	Br	CF <sub>3</sub>	<i>i-</i> Pr	Cl	C1	Br	$CF_3$	i-Pr	Cl	Br	Br	CF <sub>3</sub>	<i>i-</i> Pr	Cl
$CH_3$	Br	$CF_3$	t-Bu	C1	Cl	Br	$CF_3$	t-Bu	Cl	Br	Br	CF <sub>3</sub>	t-Bu	C1
$CH_3$	Br	$CF_3$	Me	Br	Cl	Br	$CF_3$	Me	Br	Br	Br	CF <sub>3</sub>	Me	Br
$CH_3$	Br	CF <sub>3</sub>	Et	Br	C1	Br	$CF_3$	Et	Br	Br	Br	CF <sub>3</sub>	Et	Br
$CH_3$	Br	CF <sub>3</sub>	i-Pr	Br	Cl	Br	CF <sub>3</sub>	i-Pr	Br	Br	Br	CF <sub>3</sub>	<i>i-</i> Pr	Br
$\text{CH}_3$	Br	CF <sub>3</sub>	t-Bu	Br	Cl	Br	$CF_3$	t-Bu	Br	Br	Br	CF <sub>3</sub>	t-Bu	Br
$CH_3$	Br	C1	Me	C1	Cl	Br	C1	Me	C1	Br	Br	C1	Me	C1
$CH_3$	Br	C1	Et	Cl	C1	Br	C1	Et	C1	Br	Br	C1	Et	C1
$CH_3$	Br	C1	<i>i-</i> Pr	Cl	Cl	Br	Cl	<i>i-</i> Pr	Cl	Br	Br	C1	<i>i-</i> Pr	C1
$CH_3$	Br	C1	t-Bu	Cl	C1	Br	C1	t-Bu	Cl	Br	Br	C1	t-Bu	C1
$CH_3$	Br	C1	Me	Br	C1	H	CF <sub>3</sub>	Me	Cl	Br	Br	C1	Me	Br
$CH_3$	Br	C1	Et	Br	C1	$\mathbf{H}$	CF <sub>3</sub>	Et	C1	Br	Br	Cl	Et	Br
$CH_3$	Br	C1	i-Pr	Br	Cl	H	$CF_3$	i-Pr	Cl	Br	Br	C1	<i>i-</i> Pr	Br
$CH_3$	Br	Cl	<i>t</i> -Bu	Br	Cl	$\mathbf{H}$	CF <sub>3</sub>	t-Bu	Cl	Br	Br	Cl	t-Bu	Br
$CH_3$	Br	Br	Me	C1	C1	H	CF <sub>3</sub>	Me	Br	Br	Br	Br	Me	Cl
$CH_3$	Br	Br	Et	Cl	Cl	H	CF <sub>3</sub>	Et	Br	Br	Br	Br	Et	C1
$CH_3$	Br	Br	i-Pr	Cl	C1	H	CF <sub>3</sub>	<i>i-</i> Pr	Br	Br	Br	Br	<i>i</i> -Pr	C1
$CH_3$	Br	Br	t-Bu	C1	C1	H	CF <sub>3</sub>	t-Bu	Br	Br	Br	Br	t-Bu	C1
$CH_3$	Br	Br	Me	Br	C1	$\mathbf{H}$	Cl	Me	C1	Br	Br	Br	Me	Br
CH <sub>3</sub>	Br	Br	Et	Br	CI	H	Cl	Et	C1	Br	Br	Br	Et	Br
$CH_3$	Br	Br	<i>i</i> -Pr	Br	C1	H	Cl	<i>i-</i> Pr	C1	Br	Br	Br	i-Pr	Br
$CH_3$	Br	Br	t-Bu	Br	C1	$\mathbf{H}$	Cl	t-Bu	Cl	Br	Br	Br	t-Bu	Br
$CH_3$	I	CF <sub>3</sub>	Me	C1	Cl	H	C1	Me	Br	Br	I	CF <sub>3</sub>	Me	Cl
$CH_3$	I	CF <sub>3</sub>	Et	C1	C1	$\mathbf{H}$	C1	Et	Br	Br	I	CF <sub>3</sub>	Et	C1
$CH_3$	I	CF <sub>3</sub>	<i>i-</i> Pr	Cl	C1	H	C1	<i>i</i> -Pr	Br	Br	1	CF <sub>3</sub>	<i>i-</i> Pr	C1
$CH_3$	I	CF <sub>3</sub>	t-Bu	Cl	C1	H	C1	t-Bu	Br	Br	Ι	CF <sub>3</sub>	t-Bu	Cl
$CH_3$	1	CF <sub>3</sub>	Me	Br	C1	H	Br	Me	Cl	Br	1	CF <sub>3</sub>	Me	Br
$CH_3$	1	CF <sub>3</sub>	Et	Br	C1	$\mathbf{H}$	Br	Et	Cl	Br	Ι	CF <sub>3</sub>	Et	Br
$CH_3$	I	CF <sub>3</sub>	<i>i</i> -Pr	Br	Cl	$\mathbf{H}$	Br	<i>i</i> -Pr	Cl	Br	Ι	CF <sub>3</sub>	<i>i-</i> Pr	Br
CH <sub>3</sub>	1	CF <sub>3</sub>	t-Bu	Br	Cl	H	Br	t-Bu	Cl	Br	1	CF <sub>3</sub>	t-Bu	Br
$CH_3$	1	C1	Me	C1	Cl	H	Br	Me	Br	Br	Ι	C1	Me	C1
CH <sub>3</sub>	1	Cl	Et	Cl	Cl	H	Br	Et	Br	Br	I	Cl	Et	Cl

<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R<sup>3</sup></u>	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6
CH <sub>3</sub>	I	Cl	<i>i-</i> Pr	C1	C1	н	Br	i-Pr	Br	Br	I	Cl	<i>i-</i> Pr	C1
CH <sub>3</sub>	I	Cl	t-Bu	C1	Cl	н	Br	t-Bu	Br	Br	I	Cl	<i>t-</i> Bu	C1
CH <sub>3</sub>	I	Cl	Me	Br	Ci	Br	Cl	Me	Br	Br	I	Cl	Me	Br
CH <sub>3</sub>	I	Cl	Et	Br	Cl	Br	C1	Et	Br	Br	I	Cl	Et	Br
CH <sub>3</sub>	I	C1	<i>i-</i> Pr	Br	Cl	Br	Cl	i-Pr	Br	Br	I	C1	i-Pr	Br
CH <sub>3</sub>	I	Cl	t-Bu	Br	C1	Br	C1	t-Bu	Br	Br	I	C1	t-Bu	Br
CH <sub>3</sub>	I	Br	Me	Cl	Cl	Br	Br	Me	C1	Br	I	Br	Me	C1
CH <sub>3</sub>	1	Br	Et	Cl	Cl	Br	Br	Et	Cl	Br	I	Br	Et	C1
CH <sub>3</sub>	I	Br	i-Pr	Cl	C1	Br	Br	i-Pr	Cl	Br	I	Br	<i>i-</i> Pr	C1
CH <sub>3</sub>	Ι	Br	t-Bu	Cl	C1	Br	Br	t-Bu	C1	Br	I	Br	t-Bu	C1
CH <sub>3</sub>	I	Br	Me	Br	Cl	Br	Br	Me	Br	Br	I	Br	Me	Br
CH <sub>3</sub>	1	Br	Et	Br	Cl	Br	Br	Et	Br	Br	I	Br	Et	Br
CH <sub>3</sub>	I	Br	i-Pr	Br	C1	Br	Br	i-Pr	Br	Br	1	Br	i-Pr	Br
$CH_3$	Ι	Br	t-Bu	Br	Cl	Br	Br	t-Bu	Br	Br	I	Br	t-Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Me	Cl	Cl	1	CF <sub>3</sub>	Me	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	Me	C1
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Et	Cl	Cl	I	$CF_3$	Et	Cl	Br	CF <sub>3</sub>	CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	C1	C1	I	CF <sub>3</sub>	i-Pr	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	i-Pr	Cl
$CH_3$	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Cl	C1	I	CF <sub>3</sub>	t-Bu	Cl	Br	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	C1
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Me	Br	Cl	I	CF <sub>3</sub>	Me	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	Me	Br
$CH_3$	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br	Cı	I	CF <sub>3</sub>	Et	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br
$CH_3$	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	Br	Cl	I	CF <sub>3</sub>	<i>i-</i> Pr	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br	CI	I	CF <sub>3</sub>	t-Bu	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br
$CH_3$	CF <sub>3</sub>	C1	Me	C1	Cl	I	C1	Me	Cl	Br	CF <sub>3</sub>	Cl	Me	Cl
CH <sub>3</sub>	CF <sub>3</sub>	Cl	Et	C1	Cl	I	C1	Et	Cl	Br	CF <sub>3</sub>	Cl	Et	C1
$CH_3$	CF <sub>3</sub>	C1	<i>i</i> -Pr	C1	Cl	I	C1	<i>i-</i> Pr	C1	Br	CF <sub>3</sub>	Cl	<i>i-</i> Pr	Cl
$CH_3$	CF <sub>3</sub>	C1	t-Bu	C1	Cl	I	C1	t-Bu	Cl	Br	CF <sub>3</sub>	Cl	t-Bu	C1
CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	Br	Cl	Ι	C1	Me	Br	Br	CF <sub>3</sub>	Cl	Me	Br
CH <sub>3</sub>	CF <sub>3</sub>	Cl	Et	Br	C1	I	Cl	Et	Br	Br	CF <sub>3</sub>	Cl	Et	Br
CH <sub>3</sub>	CF <sub>3</sub>	C1	<i>i-</i> Pr	Br	Cl	I	Cl	i-Pr	Br	Br	CF <sub>3</sub>	C1	<i>i-</i> Pr	Br
CH <sub>3</sub>	CF <sub>3</sub>	C1	<i>t</i> -Bu	Br	Cl	I	C1	t-Bu	Br	Br	CF <sub>3</sub>	Cl	<i>t-</i> Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	C1	Cl	1	Br	Me	C1	Br	CF <sub>3</sub>	Br	Me	Cl
CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	C1	C1	I	Br	Et	C1	Br	CF <sub>3</sub>	Br	Et	C1
CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	C1	Cl	I	Br	<i>i-</i> Pr	C1	Br	CF <sub>3</sub>	Br	<i>i</i> -Pr	Cl
CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	C1	Cl	Ι	Br	t-Bu	Cl	Br	CF <sub>3</sub>	Br	t-Bu	Cl
CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	Br	CI	I	Br	Me	Br	Br	CF <sub>3</sub>	Br	Me	Br
CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	Br	Cl	I	Br	Et	Br	Br	CF <sub>3</sub>	Br	Et	Br
CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i</i> -Pr	Br	C1	I	Br	i-Pr	Br	Br	CF <sub>3</sub>	Br	<i>i</i> -Pr	Br

$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	$\underline{R^3}$	<u>R</u> 6	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 7	$\mathbb{R}^3$	<u>R</u> 6
CH <sub>3</sub>	$CF_3$	Br	t-Bu	Br	C1	I	Br	t-Bu	Br	Br	CF <sub>3</sub>	Br	t-Bu	Br
CH <sub>3</sub>	C1	Cl	n-Pr	CI	CI	$CF_3$	$CF_3$	Me	Cl	Ι	C1	CF <sub>3</sub>	Me	C1
$CH_3$	C1	Cl	n-Bu	Cl	Cl	$CF_3$	$CF_3$	Et	Cl	Ι	C1	CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	C1	Cl	s-Bu	C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	C1	I	C1	CF <sub>3</sub>	<i>i-</i> Pr	Cl
CH <sub>3</sub>	Cl	Cl	<i>i-</i> Bu	C1	C1	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Cl	I	Cl	CF <sub>3</sub>	t-Bu	Cl
$CH_3$	H	CF <sub>3</sub>	Me	C1	Cl	$CF_3$	CF <sub>3</sub>	Me	Br	I	C1	CF <sub>3</sub>	Me	Br
$CH_3$	H	CF <sub>3</sub>	Et	Cl	Cl	CF <sub>3</sub>	$CF_3$	Et	Br	I	C1	CF <sub>3</sub>	Et	Br
$CH_3$	H	CF <sub>3</sub>	<i>i-</i> Pr	Cl	C1	CF <sub>3</sub>	$CF_3$	<i>i</i> -Pr	Br	I	C1	CF <sub>3</sub>	<i>i-</i> Pr	Br
CH <sub>3</sub>	H	CF <sub>3</sub>	t-Bu	C1	C1	CF <sub>3</sub>	$CF_3$	t-Bu	Br	I	Cl	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	H	CF <sub>3</sub>	Me	Br	Cl	CF <sub>3</sub>	Cl	Me	Cl	I	C1	Cl	Me	C1
CH <sub>3</sub>	H	CF <sub>3</sub>	Et	Br	Cl	CF <sub>3</sub>	Cl	Et	Cl	1	Cl	Cl	Et	C1
CH <sub>3</sub>	H	CF <sub>3</sub>	i-Pr	Br	Cl	CF <sub>3</sub>	Cl	i-Pr	Cl	I	C1	C1	<i>i-</i> Pr	Cl
CH <sub>3</sub>	H	CF <sub>3</sub>	t-Bu	Br	C1	$CF_3$	C1	t-Bu	C1	I	C1	C1	t-Bu	C1
CH <sub>3</sub>	H	Cl	Me	Cl	Cl	CF <sub>3</sub>	C1	Me	Br	Ι	C1	Cl	Me	Br
CH <sub>3</sub>	H	C1	Et	Cl	Cl	CF <sub>3</sub>	Cl	Et	Br	I	C1	Cl	Et	Br
CH <sub>3</sub>	$\mathbf{H}$	C1	i-Pr	C1	Cl	CF <sub>3</sub>	C1	i-Pr	Br	I	C1	Cl	i-Pr	Br
CH <sub>3</sub>	H	Cl	t-Bu	C1	Cl	CF <sub>3</sub>	Cl	t-Bu	Br	Ι	C1	C1	t-Bu	Br
$CH_3$	H	Cl	Me	Br	Cl	CF <sub>3</sub>	Br	Me	C1	I	C1	Br	Me	C1
$CH_3$	H	Cl	Et	Br	Cl	CF <sub>3</sub>	Br	Et	C1	Ι	C1	Br	Et	C1
CH <sub>3</sub>	$\mathbf{H}$	C1	i-Pr	Br	Cl	CF <sub>3</sub>	Br	i-Pr	Cl	I	C1	Br	<i>i-</i> Pr	C1
$CH_3$	Н	Cl	t-Bu	Br	Cl	CF <sub>3</sub>	Br	t-Bu	Cl	Ι	C1	Br	t-Bu	C1
CH <sub>3</sub>	$\mathbf{H}$	Br	Me	Cl	Cl	CF <sub>3</sub>	Br	Me	Br	Ι	C1	Br	Me	Br
CH <sub>3</sub>	H	Br	Et	C1	Cl	CF <sub>3</sub>	Br	Et	Br	Ι	C1	Br	Et	Br
$CH_3$	H	Br	i-Pr	C1	C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	Br	I	C1	Br	i-Pr	Br
CH <sub>3</sub>	$\mathbf{H}$	Br	t-Bu	C1	C1	CF <sub>3</sub>	Br	t-Bu	Br	I	Cl	Br	t-Bu	Br
CH <sub>3</sub>	H	Br	Me	Br	Cl	C1	C1	<i>n</i> -Pr	Cl	I	H	CF <sub>3</sub>	Me	Cl
$CH_3$	H	Br	Et	Br	C1	<b>C</b> 1	Cl	n-Bu	Cl	I	H	$CF_3$	Et	C1
$CH_3$	H	Br	i-Pr	Br	C1	C1	C1	s-Bu	Cl	Ι	H	CF <sub>3</sub>	<i>i-</i> Pr	Cl
CH <sub>3</sub>	$\mathbf{H}$	Br	t-Bu	Br	Cl	Cl	Cl	<i>i-</i> Bu	Cl	I	H	CF <sub>3</sub>	t-Bu	C1

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Table 5

$$R^{4b}$$
  $3$   $NH$   $R^{3}$ 

<u>R</u> 3	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 6	<u>R</u> 7	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 7
Me	3-Me	H	CF <sub>3</sub>	F	Ме	3-C1	H	CF <sub>3</sub>	F
Et	3-Me	5-Me	OCF <sub>3</sub>	$\mathbf{F}$	Et	3-C1	5-Me	OCF <sub>3</sub>	F
i-Pr	3-Ме	$\mathbf{H}$	OCF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	F
t-Bu	3-Ме	5-C1	Br	F	<i>t</i> -Bu	3-C1	5-C1	Br	F
Me	3-Ме	H	Br	F	Me	3-C1	$\mathbf{H}$	Br	F
Et	3-Ме	H	C1	F	Et	3-C1	$\mathbf{H}$	C1	F
<i>i</i> -Pr	3-Ме	5-Br	Cl	F	<i>i-</i> Pr	3-C1	5-Br	C1	F
t-Bu	3-Me	Ĥ	I	F	<i>t-</i> Bu	3-C1	H	I	F
propargyl	3-Me	$\mathbf{H}$	CF <sub>3</sub>	F	propargyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	F
c-propyl	3-Me	H	OCF <sub>3</sub>	F	c-propyl	3-C1	H	OCF <sub>3</sub>	F
<i>i</i> -Pr	3-Ме	5-Cl	CF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	F
t-Bu	3-Me	H	SCF <sub>3</sub>	F	t-Bu	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	F
Me	3-Ме	5-C1	SCHF <sub>2</sub>	F	Me	3-C1	5-C1	SCHF <sub>2</sub>	F
Et	3-Ме	H	OCHF <sub>2</sub>	F	Et	3-C1	H	OCHF <sub>2</sub>	F
<i>i-</i> Pr	3-Ме	H	CF <sub>3</sub>	F	<i>i-</i> Pr	3-Cl	H	CF <sub>3</sub>	F
t-Bu	3-Me	H	$C_2F_5$	F	<i>t</i> -Bu	3-C1	$\mathbf{H}$	$C_2F_5$	F
propargyl	3-Ме	H	$C_2F_5$	F	propargyl	3-C1	$\mathbf{H}$	$C_2F_5$	F
c-propyl	3-Ме	H	CF <sub>3</sub>	F	c-propyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	F
<i>i-</i> Pr	3-Ме	H	Me	F	<i>i-</i> Pr	3-C1	$\mathbf{H}$	Me	F
t-Bu	3-Ме	5-Br	CN	F	<i>t-</i> Bu	3-C1	5-Br	CN	F
Me	3-Ме	H	CF <sub>3</sub>	C1	Me	3-C1	$\mathbf{H}$	CF <sub>3</sub>	C1
Et	3-Ме	5-Me	OCF <sub>3</sub>	C1	Et	3-C1	5-Me	OCF <sub>3</sub>	C1
<i>i-</i> Pr	3-Me	H	OCF <sub>3</sub>	C1	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	C1
t-Bu	3-Ме	5-Cl	Br	C1	<i>t</i> -Bu	3-C1	5-C1	Br	C1
Me	3-Ме	H	$\mathbf{Br}$	C1	Me	3-C1	H	Br	Cl
Et	3-Ме	H	Cl	Cl	Et	3-C1	H	Cl	C1

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<u>R<sup>3</sup></u>	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 7	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 7
<i>i-</i> Pr	3-Ме	5-Br	C1	C1	<i>i-</i> Pr	3-C1	5-Br	Cl	C1
<i>t-</i> Bu	3-Ме	$\mathbf{H}$	I	Cl	<i>t</i> -Bu	3-C1	Н	I	C1
propargyl	3-Ме	$\mathbf{H}$	CF <sub>3</sub>	Cl	propargyl	3-C1	Н	CF <sub>3</sub>	Cl
c-propyl	3-Ме	$\mathbf{H}$	OCF <sub>3</sub>	Cl	c-propyl	3-C1	H	OCF <sub>3</sub>	C1
<i>i-</i> Pr	3-Ме	5-C1	CF <sub>3</sub>	C1	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	C1
t-Bu	3-Ме	H	SCF <sub>3</sub>	C1	t-Bu	3-C1	Н	SCF <sub>3</sub>	C1
Me	3-Ме	5-C1	SCHF <sub>2</sub>	C1	Me	3-C1	5-C1	SCHF <sub>2</sub>	C1
Et	3-Ме	H	$OCHF_2$	C1	Et	3-C1	H	$OCHF_2$	Cl
i-Pr	3-Ме	H	CF <sub>3</sub>	C1	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	C1
t-Bu	3-Ме	H	$C_2F_5$	C1	<i>t</i> -Bu	3-C1	H	$C_2F_5$	Cl
propargyl	3-Me	H	$C_2F_5$	C1	propargyl	3-C1	H	$C_2F_5$	C1
c-propyl	3-Ме	H	CF <sub>3</sub>	Cl	c-propyl	3-C1	H	CF <sub>3</sub>	C1
<i>i-</i> Pr	3-Ме	H	Me	Cl	<i>i-</i> Pr	3-C1	H	Me	C1
t-Bu	3-Ме	5-Br	CN	C1	t-Bu	3-C1	5-Br	CN	C1
Me	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	Ме	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
Et	3-Me	5-Me	OCF <sub>3</sub>	CF <sub>3</sub>	Et	3-C1	5-Me	OCF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	3-Ме	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Ме	5-C1	Br	CF <sub>3</sub>	<i>t</i> -Bu	3-C1	5-Cl	Br	CF <sub>3</sub>
Me	3-Ме	H	Br	CF <sub>3</sub>	Me	3-C1	H	Br	CF <sub>3</sub>
Et	3-Me	H	Cl	CF <sub>3</sub>	Et	3-C1	H	C1	CF <sub>3</sub>
<i>i-</i> Pr	3-Ме	5-Br	C1	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-Br	C1	CF <sub>3</sub>
t-Bu	3-Me	H	I	CF <sub>3</sub>	<i>t</i> -Bu	3-C1	H	I	CF <sub>3</sub>
propargyl	3-Ме	H	CF <sub>3</sub>	CF <sub>3</sub>	propargyl	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
c-propyl	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	c-propyl	3-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
i-Pr	3-Me	5-C1	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	t-Bu	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
Me	3-Me	5-C1	SCHF <sub>2</sub>	CF <sub>3</sub>	Me	3-C1	5-C1	SCHF <sub>2</sub>	CF <sub>3</sub>
Et	3-Me	$\mathbf{H}$	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	3-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Ме	H	$C_2F_5$	CF <sub>3</sub>	t-Bu	3-C1	H	$C_2F_5$	CF <sub>3</sub>
propargyl	3-Ме	H	$C_2F_5$	CF <sub>3</sub>	propargyl	3-C1	H	$C_2F_5$	CF <sub>3</sub>
c-propyl	3-Ме	H	CF <sub>3</sub>	CF <sub>3</sub>	c-propyl	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	3-Me	H	Me	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	H	Me	CF <sub>3</sub>
t-Bu	3-Ме	5-Br	CN	CF <sub>3</sub>	t-Bu	3-C1	5-Br	CN	CF <sub>3</sub>
Me	3-Me	H	CF <sub>3</sub>	Br	Me	3-C1	H	CF <sub>3</sub>	Br
Et	3-Ме	5-Me	OCF <sub>3</sub>	Br	Et	3-C1		OCF <sub>3</sub>	Br
<i>i</i> -Pr	3-Me	H	OCF <sub>3</sub>	Br	<i>i</i> -Pr	3-C1	H	OCF <sub>3</sub>	Br

<u>R<sup>3</sup></u>	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 7	<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R</u> 6	<u>R</u> 7
t-Bu	3-Me	5-C1	Br	Br	<i>t-</i> Bu	3-C1	5-C1	Br	Br
Me	3-Ме	H	Br	Br	Me	3-C1	H	Br	Br
Et	3-Ме	H	C1	Br	Et	3-C1	H	Cl	Br
<i>i-</i> Pr	3-Ме	5-Br	C1	Br	<i>i-</i> Pr	3-C1	5-Br	C1	Br
t-Bu	3-Ме	H	I	Br	<i>t</i> -Bu	3-C1	H	I	Br
propargyl	3-Me	H	CF <sub>3</sub>	Br	propargyl	3-C1	H	CF <sub>3</sub>	Br
c-propyl	3-Me	$\mathbf{H}$	OCF <sub>3</sub>	Br	c-propyl	3-C1	Н	OCF <sub>3</sub>	Br
<i>i-</i> Pr	3-Me	5-C1	CF <sub>3</sub>	Br	i-Pr	3-C1	5-C1	CF <sub>3</sub>	Br
t-Bu	3-Me	H	SCF <sub>3</sub>	Br	t-Bu	3-C1	H	SCF <sub>3</sub>	Br
Me	3-Me	5-C1	SCHF <sub>2</sub>	Br	Me	3-C1	5-Cl	SCHF <sub>2</sub>	Br
Et	3-Me	H	OCHF <sub>2</sub>	Br	Et	3-Cl	H	OCHF <sub>2</sub>	Br
i-Pr	3-Me	H	CF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	Br
t-Bu	3-Ме	H	$C_2F_5$	Br	<i>t-</i> Bu	3-C1	H	$C_2F_5$	Br
propargyl	3-Me	H	$C_2F_5$	Br	propargyl	3-C1	H	$C_2F_5$	Br
c-propyl	3-Me	H	CF <sub>3</sub>	Br	<i>c-</i> propyl	3-C1	H	CF <sub>3</sub>	Br
i-Pr	3-Me	H	Me	Br	i-Pr	3-C1	Н	Me	Br
t-Bu	3-Me	5-Br	CN	Br	<i>t-</i> Bu	3-C1	5-Br	CN	Br
Me	6-Me	H	OCHF <sub>2</sub>	F	Me	6-C1	H	OCHF <sub>2</sub>	F
Et	6-Me	H	$OCHF_2$	F	Et	6-Cl	H	OCHF <sub>2</sub>	F
i-Pr	6-Me	H	$OCHF_2$	F	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	F
t-Bu	6-Me	H	OCHF <sub>2</sub>	F	<i>t</i> -Bu	6-Cl	H	OCHF <sub>2</sub>	F
Me	6-Me	H	SCHF <sub>2</sub>	F	Me	6-C1	H	SCHF <sub>2</sub>	F
Et	6-Me	H	SCHF <sub>2</sub>	F	Et	6-C1	H	SCHF <sub>2</sub>	F
<i>i</i> -Pr	6-Ме	H	SCHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	F
<i>t</i> -Bu	6-Ме	H	SCHF <sub>2</sub>	F	<i>t-</i> Bu	6-C1	H	SCHF <sub>2</sub>	F
Me	6-Me	H	OCF <sub>3</sub>	F	Me	6-C1	H	OCF <sub>3</sub>	F
Et	6-Me	H	OCF <sub>3</sub>	F	Et	6-C1	H	OCF <sub>3</sub>	F
<i>i-</i> Pr	6-Ме	H	OCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	F
t-Bu	6-Ме	H	OCF <sub>3</sub>	F	<i>t-</i> Bu	6-C1	H	OCF <sub>3</sub>	F
Me	6-Me	H	SCF <sub>3</sub>	F	Me	6-C1	H	SCF <sub>3</sub>	F
Et	6-Me	H	SCF <sub>3</sub>	F	Et	6-C1	H	SCF <sub>3</sub>	F
<i>i-</i> Pr	6-Ме	H	SCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	F
t-Bu	6-Me	H	SCF <sub>3</sub>	F	t-Bu	6-C1	H	SCF <sub>3</sub>	F
Me	6-Ме	H	$C_2F_5$	F	Me	6-C1	H	$C_2F_5$	F
Et	6-Ме	H	$C_2F_5$	F	Et	6-C1	H	$C_2F_5$	F
i-Pr	6-Me	H	$C_2F_5$	F	<i>i</i> -Pr	6-C1	H	$C_2F_5$	F
t-Bu	6-Me	Н	$C_2F_5$	F	t-Bu	6-C1	H	$C_2F_5$	F

$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 7	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	$\mathbb{R}^7$
6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F
6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F
6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F
6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F
6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F
6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$
6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
6-Me	H	CN	F	Me	6-C1	$\mathbf{H}$	CN	F
6-Me	H	CN	F	Et	6-C1	H	CN	F
6-Me	H	CN	F	<i>i-</i> Pr	6-C1	H	CN	F
6-Me	H	CN	F	<i>t-</i> Bu	6-C1	H	CN	F
6-Ме	H	OCHF <sub>2</sub>	C1	Me	6-C1	H	OCHF <sub>2</sub>	C1
6-Me	H	OCHF <sub>2</sub>	Cl	Et	6-C1	H	OCHF <sub>2</sub>	C1
6-Me	H	OCHF <sub>2</sub>	C1	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	Cl
6-Me	H	OCHF <sub>2</sub>	C1	<i>t</i> -Bu	6-C1	H	OCHF <sub>2</sub>	Cl
6-Me	H	SCHF <sub>2</sub>	C1	Me	6-C1	H	SCHF <sub>2</sub>	C1
6-Me	H	SCHF <sub>2</sub>	C1	Et	6-C1	H	SCHF <sub>2</sub>	C1
6-Ме	H	SCHF <sub>2</sub>	C1	<i>i-</i> Pr	6-C1	· <b>H</b>	SCHF <sub>2</sub>	C1
6-Ме	H	$SCHF_2$	C1	<i>t</i> -Bu	6-C1	H	SCHF <sub>2</sub>	C1
6-Me	H	OCF <sub>3</sub>	C1	Me	6-C1	H	OCF <sub>3</sub>	Cl
6-Me	H	OCF <sub>3</sub>	C1	Et	6-C1	H	OCF <sub>3</sub>	C1
6-Me	H	OCF <sub>3</sub>	C1	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	C1
6-Me	H	OCF <sub>3</sub>	C1	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	C1
6-Ме	$\mathbf{H}$	SCF <sub>3</sub>	C1	Me	6-C1	H	SCF <sub>3</sub>	C1
6-Ме	H	SCF <sub>3</sub>	C1	Et	6-C1	H	SCF <sub>3</sub>	Cl
6-Ме	$\mathbf{H}$	SCF <sub>3</sub>	C1	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	C1
6-Me	H	SCF <sub>3</sub>	Cl	<i>t-</i> Bu	6-C1	H	SCF <sub>3</sub>	C1
6-Me	$\mathbf{H}$	$C_2F_5$	C1	Me	6-C1	H	$C_2F_5$	C1
6-Me	H	$C_2F_5$	Cl	Et	6-C1	H	$C_2F_5$	C1
6-Me	$\mathbf{H}$	$C_2F_5$	C1	<i>i</i> -Pr	6-C1	H	$C_2F_5$	C1
6-Ме	H	$C_2F_5$	C1	<i>t-</i> Bu	6-C1	H	$C_2F_5$	C1
6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	C1	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl
6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	Et	6-Cl	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl
6-Ме	Н	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	t-Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	Me	6-Cl	H	i-C <sub>3</sub> F <sub>7</sub>	Cl
	6-Me 6-Me 6-Me 6-Me 6-Me 6-Me 6-Me 6-Me	6-Me H	6-Me H	6-Me H	6-Me H	6-Me H	6-Me H	6-Me H

<u>R</u> 3	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 6	<u>R</u> 7	<u>R<sup>3</sup></u>	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 6	<u>R</u> 7
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	Et	6-C1	<u>—</u>	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl
<i>i-</i> Pr	6-Ме	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	<i>i-</i> Pr	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Ме	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	<i>t</i> -Bu	6-Cl	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Ме	Н	CN CN	Cl	Me	6-C1	Н	CN	C1
Et	6-Ме	H	CN	Cl	Et	6-C1	Н	CN	Cl
<i>i-</i> Pr	6-Me	Н	CN	Cl	<i>i-</i> Pr	6-Cl	H	CN	C1
t-Bu	6-Me	$\mathbf{H}$	CN	Cl	<i>t-</i> Bu	6-C1	Н	CN	C1
Me	6-Ме	Н	OCHF <sub>2</sub>	Br	Me	6-C1	H	OCHF <sub>2</sub>	Br
Et	6-Ме	Н	OCHF <sub>2</sub>	Br	Et	6-C1	H	$OCHF_2$	Br
i-Pr	6-Ме	H	OCHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	Br
t-Bu	6-Ме	H	OCHF <sub>2</sub>	Br	t-Bu	6-C1	H	OCHF <sub>2</sub>	Br
Me	6-Ме	H	SCHF <sub>2</sub>	Br	Me	6-C1	Н	SCHF <sub>2</sub>	Br
Et	6-Ме	H	SCHF <sub>2</sub>	Br	Et	6-C1	H	SCHF <sub>2</sub>	Br
i-Pr	6-Me	H	SCHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	Br
t-Bu	6-Ме	H	SCHF <sub>2</sub>	Br	t-Bu	6-C1	H	SCHF <sub>2</sub>	Br
Me	6-Me	H	OCF <sub>3</sub>	Br	Me	6-C1	H	OCF <sub>3</sub>	Br
Et	6-Me	H	OCF <sub>3</sub>	Br	Et	6-C1	H	OCF <sub>3</sub>	Br
<i>i</i> -Pr	6-Ме	H	OCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	Br
t-Bu	6-Me	H	OCF <sub>3</sub>	Br	t-Bu	6-C1	H	OCF <sub>3</sub>	Br
Me	6-Me	H	SCF <sub>3</sub>	Br	Me	6-C1	H	SCF <sub>3</sub>	Br
Et	6-Me	H	SCF <sub>3</sub>	Br	Et	6-C1	H	SCF <sub>3</sub>	Br
i-Pr	6-Ме	H	SCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	Н	SCF <sub>3</sub>	Br
t-Bu	6-Ме	H	SCF <sub>3</sub>	Br	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	Br
Me	6-Me	H	$C_2F_5$	Br	Me	6-C1	H	$C_2F_5$	Br
Et	6-Me	H	$C_2F_5$	Br	Et	6-C1	H	$C_2F_5$	Br
i-Pr	6-Me	H	$C_2F_5$	Br	<i>i-</i> Pr	6-C1	H	$C_2F_5$	Br
t-Bu	6-Me	H	$C_2F_5$	Br	<i>t-</i> Bu	6-C1	H	$C_2F_5$	Br
Me	6-Ме	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
i-Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Ме	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>t</i> -Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
<i>i-</i> Pr	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Ме	H	CN	Br	Me	6-C1	H	CN	Br
Et	6-Me	H	CN	Br	Et	6-C1	H	CN	Br

<u>R</u> 3	<u>R<sup>4a</sup></u>	R4b	<u>R</u> 6	<u>R</u> 7	<u>R</u> 3	<u>R</u> 4a	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 7
<i>i-</i> Pr	6-Ме	$\mathbf{H}$	CN	Br	i-Pr	6-C1	$\mathbf{H}$	CN	Br
t-Bu	6-Me	$\mathbf{H}$	CN	Br	<i>t-</i> Bu	6-C1	H	CN	Br
Me	6-Me	$\mathbf{H}$	OCHF <sub>2</sub>	CF <sub>3</sub>	Ме	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Ме	Н	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	H	OCHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Ме	H	OCHF <sub>2</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	Ме	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Me	$\mathbf{H}$	$SCHF_2$	CF <sub>3</sub>	Et	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	$\mathbf{H}$	$SCHF_2$	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Ме	H	OCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	Н	OCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Ме	H	OCF <sub>3</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	Н	OCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	H	SCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	H	$C_2F_5$	CF <sub>3</sub>	Ме	6-C1	H	$C_2F_5$	CF <sub>3</sub>
Et '	6-Me	$\mathbf{H}$	$C_2F_5$	$CF_3$	Et	6-C1	H	$C_2F_5$	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	$C_2F_5$	CF <sub>3</sub>	i-Pr	6-C1	H	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Me	H	$C_2F_5$	CF <sub>3</sub>	t-Bu	6-Cl	H	$C_2F_5$	CF <sub>3</sub>
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	$\mathbf{H}$	CN	CF <sub>3</sub>	Me	6-C1	H	CN	CF <sub>3</sub>
Et	6-Me	$\mathbf{H}$	CN	CF <sub>3</sub>	Et	6-C1	$\mathbf{H}$	CN	CF <sub>3</sub>
<i>i</i> -Pr	6-Me	H	CN	CF <sub>3</sub>	<i>i</i> -Pr	6-C1	H	CN	CF <sub>3</sub>
t-Bu	6-Me	H	CN	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	CN	CF <sub>3</sub>
Me	6-Me	C1	OCHF <sub>2</sub>	F	Me	6-C1	C1	OCHF <sub>2</sub>	F
Et	6-Me	C1	OCHF <sub>2</sub>	F	Et	6-C1	Cl	OCHF <sub>2</sub>	F
i-Pr	6-Me	C1	OCHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	F

<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 6	<u>R</u> 7	<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 6	<u>R</u> 7
t-Bu	6-Ме	Cl	OCHF <sub>2</sub>	F	<i>t-</i> Bu	6-C1	Cl	$OCHF_2$	F
Me	6-Ме	C1	SCHF <sub>2</sub>	F	Ме	6-C1	C1	SCHF <sub>2</sub>	F
Et	6-Ме	C1	SCHF <sub>2</sub>	F	Et	6-C1	C1	SCHF <sub>2</sub>	F
<i>i-</i> Pr	6-Ме	C1	SCHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	Cl	SCHF <sub>2</sub>	F
t-Bu	6-Ме	Cl	SCHF <sub>2</sub>	F	<i>t</i> -Bu	6-C1	C1	SCHF <sub>2</sub>	F
Me	6-Me	Cl	OCF <sub>3</sub>	F	Me	6-C1	C1	OCF <sub>3</sub>	F
Et	6-Me	C1	OCF <sub>3</sub>	F	Et	6-C1	C1	OCF <sub>3</sub>	F
i-Pr	6-Ме	Cl	OCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	Cl	OCF <sub>3</sub>	F
t-Bu	6-Ме	Cl	OCF <sub>3</sub>	F	<i>t-</i> Bu	6-C1	Cl	OCF <sub>3</sub>	F
Me	6-Me	Cl	SCF <sub>3</sub>	F	Ме	6-C1	C1	SCF <sub>3</sub>	F
Et	6-Me	Cl	SCF <sub>3</sub>	F	Et	6-C1	Cl	SCF <sub>3</sub>	F
i-Pr	6-Me	C1	SCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	F
t-Bu	6-Me	Cl	SCF <sub>3</sub>	F	<i>t</i> -Bu	6-C1	Cl	SCF <sub>3</sub>	F
Me	6-Me	Cl	$C_2F_5$	F	Me	6-C1	C1	$C_2F_5$	F
Et	6-Me	Cl	$C_2F_5$	F	Et	6-C1	C1	$C_2F_5$	F
i-Pr	6-Me	Cl	$C_2F_5$	F	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	F
t-Bu	6-Me	Cl	$C_2F_5$	F	<i>t-</i> Bu	6-C1	C1	$C_2F_5$	F
Me	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F
i-Pr	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
Me	6-Ме	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
i-Pr	6-Ме	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Ме	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	C1	CN	F	Me	6-C1	C1	CN	F
Et	6-Me	C1	CN	F	Et	6-CI	C1	CN	F
i-Pr	6-Ме	Cl	CN	F	<i>i-</i> Pr	6-C1	C1	CN	F
t-Bu	6-Ме	C1	CN	F	t-Bu	6-C1	C1	CN	F
Me	6-Me	Cl	OCHF <sub>2</sub>	C1	Me	6-C1	Cl	OCHF <sub>2</sub>	C1
Et	6-Me	C1	OCHF <sub>2</sub>	C1	Et	6-C1	C1	OCHF <sub>2</sub>	Cl
<i>i-</i> Pr	6-Me	C1	OCHF <sub>2</sub>	C1	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	C1
t-Bu	6-Me	C1	OCHF <sub>2</sub>	C1	t-Bu	6-C1	C1	OCHF <sub>2</sub>	Cl
Me	6-Me	C1	SCHF <sub>2</sub>	C1	Me	6-C1	C1	SCHF <sub>2</sub>	C1
Et	6-Ме	Cl	SCHF <sub>2</sub>	Cl	Et	6-C1	C1	SCHF <sub>2</sub>	Cl
i-Pr	6-Me	Cl	SCHF <sub>2</sub>	C1	<i>i-</i> Pr	6-C1	C1	SCHF <sub>2</sub>	Cl
t-Bu	6-Me	C1	SCHF <sub>2</sub>	C1	<i>t-</i> Bu	6-C1	Cl	SCHF <sub>2</sub>	Cl

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 7	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 7
Me	6-Me	C1	OCF <sub>3</sub>	Cl	Ме	6-C1	Cl	OCF <sub>3</sub>	C1
Et	6-Me	C1	OCF <sub>3</sub>	Cl	Et	6-C1	C1	OCF <sub>3</sub>	C1
i-Pr	6-Me	Cl	OCF <sub>3</sub>	Cl	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	C1
t-Bu	6-Me	Cl	OCF <sub>3</sub>	Cl	<i>t</i> -Bu	6-C1	Cl	OCF <sub>3</sub>	C1
Me	6-Me	Cl	SCF <sub>3</sub>	C1	Me	6-C1	C1	SCF <sub>3</sub>	C1
Et	6-Me	Cl	SCF <sub>3</sub>	Cl	Et	6-C1	Cl	SCF <sub>3</sub>	C1
<i>i-</i> Pr	6-Ме	Cl	SCF <sub>3</sub>	Cl	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	C1
t-Bu	6-Ме	Cl	SCF <sub>3</sub>	Cl	<i>t</i> -Bu	6-C1	Cl	SCF <sub>3</sub>	Cl
Me	6-Me	Cl	$C_2F_5$	Cl	Me	6-C1	Cl	$C_2F_5$	C1
Et	6-Me	Cl	$C_2F_5$	Cl	Et	6-C1	Cl	$C_2F_5$	C1
<i>i-</i> Pr	6-Ме	Cl	$C_2F_5$	Cl	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	Cl
<i>t</i> -Bu	6-Me	Cl	$C_2F_5$	C1	t-Bu	6-C1	C1	$C_2F_5$	Cl
Me	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	C1	Me	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl
Et	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	C1
i-Pr	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl	<i>t</i> -Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	Me	6-Cl	C1	i-C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
i-Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	Cl	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	Cl
t-Bu	6-Ме	Cl	i-C <sub>3</sub> F <sub>7</sub>	Cl	<i>t-</i> Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl
Me	6-Ме	Cl	CN	Cl	Ме	6-C1	Cl	CN	C1
Et	6-Me	Cl	CN	Cl	Et	6-C1	Cl	CN	Cl
<i>i-</i> Pr	6-Ме	C1	CN	C1	<i>i-</i> Pr	6-C1	C1	CN	C1
t-Bu	6-Me	Cl	CN	C1	<i>t-</i> Bu	6-C1	Cl	CN	C1
Me	6-Ме	Cl	OCHF <sub>2</sub>	Br	Me	6-C1	Cl	OCHF <sub>2</sub>	Br
Et	6-Me	C1	OCHF <sub>2</sub>	Br	Et	6-C1	C1	OCHF <sub>2</sub>	Br
<i>i-</i> Pr	6-Ме	C1	OCHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	Br
t-Bu	6-Me	Cl	OCHF <sub>2</sub>	Br	<i>t</i> -Bu	6-C1	Cl	OCHF <sub>2</sub>	Br
Me	6-Me	C1	SCHF <sub>2</sub>	Br	Me	6-C1	C1	schf <sub>2</sub>	Br
Et	6-Me	Cl	$SCHF_2$	Br	Et	6-C1	Cl	SCHF <sub>2</sub>	Br
i-Pr	6-Me	Cl	SCHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	C1	SCHF <sub>2</sub>	Br
t-Bu	6-Me	<b>C</b> 1 .	SCHF <sub>2</sub>	Br	<i>t-</i> Bu	6-C1	Cl	SCHF <sub>2</sub>	Br
Me	6-Me	Cl	OCF <sub>3</sub>	Br	Me	6-C1	Cl	OCF <sub>3</sub>	Br
Et	6-Me	Cl	OCF <sub>3</sub>	Br	Et	6-C1	C1	OCF <sub>3</sub>	Br
<i>i-</i> Pr	6-Me	C1	OCF <sub>3</sub>	Br	<i>i</i> -Pr	6-C1	C1	OCF <sub>3</sub>	Br
t-Bu	6-Me	C1	OCF <sub>3</sub>	Br	<i>t-</i> Bu	6-C1	C1	OCF <sub>3</sub>	Br
Me	6-Me	C1	SCF <sub>3</sub>	Br	Me	6-C1	C1	SCF <sub>3</sub>	Br

<u>R</u> 3	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 6	<u>R</u> 7	<u>R</u> 3	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 6	<u>R</u> 7
Et	6-Me		SCF <sub>3</sub>	Br	Et	6-Cl	C1	SCF <sub>3</sub>	Br
<i>i-</i> Pr	6-Me	Cl	SCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	Br
t-Bu	6-Ме	C1	SCF <sub>3</sub>	Br	<i>t-</i> Bu	6-C1	C1	SCF <sub>3</sub>	Br
Me	6-Me	C1	$C_2F_5$	Br	Me	6-C1	Cl	$C_2F_5$	Br
Et	6-Me	C1	$C_2F_5$	Br	Et	6-C1	Cl	$C_2F_5$	Br
<i>i</i> -Pr	6-Ме	CI	$C_2F_5$	Br	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	Br
t-Bu	6-Ме	Cl	$C_2F_5$	Br	<i>t</i> -Bu	6-C1	C1	$C_2F_5$	Br
Me	6-Ме	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Ме	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
<i>i</i> -Pr	6-Ме	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Ме	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>t-</i> Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Ме	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Ме	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
i-Pr	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	<i>t-</i> Bu	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	C1	CN	Br	Me	6-C1	C1	CN	Br
Et	6-Me	C1	CN	Br	Et	6-C1	C1	CN	Br
i-Pr	6-Ме	Cl	CN	Br	<i>i-</i> Pr	6-C1	C1	CN	Br
t-Bu	6-Ме	Cl	CN	Br	t-Bu	6-C1	C1	CN	Br
Me	6-Ме	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	Me	6-C1	C1	$OCHF_2$	CF <sub>3</sub>
Et	6-Ме	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	t-Bu	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	Me	6-C1	C1	schf <sub>2</sub>	CF <sub>3</sub>
Et	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-Cl	C1	SCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>
i-Pr	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	OCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	Me	6-C1	C1	$C_2F_5$	CF <sub>3</sub>
Et	6-Ме	Cl	$C_2F_5$	CF <sub>3</sub>	Et	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>

				-					
<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 7	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 7
<i>i-</i> Pr	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
Me	6-Ме	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Ме	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
i-Pr	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Ме	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	t-Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	Cl	CN	CF <sub>3</sub>	Me	6-C1	C1	CN	CF <sub>3</sub>
Et	6-Me	Cl	CN	CF <sub>3</sub>	Et	6-C1	C1	CN	CF <sub>3</sub>
i-Pr	6-Me	C1	CN	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	CN	CF <sub>3</sub>
t-Bu	6-Me	Cl	CN	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	Cl	CN	CF <sub>3</sub>

Table 6

$\underline{R^3}$	<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 7	<u>R</u> 6	<u>X</u>	<u>R<sup>3</sup></u>	$R^{4a}$	$R^{4b}$	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{X}}$
Me	6-Me	H	OCHF <sub>2</sub>	F	CH	Me	6-C1	H	OCHF <sub>2</sub>	F	CH
Et	6-Me	H	OCHF <sub>2</sub>	F	CH	Et	6-C1	H	OCHF <sub>2</sub>	F	CH
i-Pr	6-Me	H	OCHF <sub>2</sub>	$\mathbf{F}$	CH	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	F	CH
t-Bu	6-Ме	H	$OCHF_2$	F	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	$OCHF_2$	F	CH
Me	6-Ме	H	SCHF <sub>2</sub>	F	CH	Me	6-Cl	H	SCHF <sub>2</sub>	F	CH
Et	6-Ме	$\mathbf{H}$	SCHF <sub>2</sub>	F	CH	Et	6-C1	H	SCHF <sub>2</sub>	F	CH
i-Pr	6-Ме	H	SCHF <sub>2</sub>	F	CH	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	F	CH
t-Bu	6-Ме	H	SCHF <sub>2</sub>	F	CH	<i>t</i> -Bu	6-Cl	$\mathbf{H}$	SCHF <sub>2</sub>	F	CH
Me	6-Me	H	OCF <sub>3</sub>	$\mathbf{F}$	$\mathbf{CH}$	Me	6-C1	H	OCF <sub>3</sub>	F	CH
Et	6-Me	$\mathbf{H}$	OCF3	F	CH	Et	6-C1	$\mathbf{H}$	OCF3	F	CH

$\mathbb{R}^3$	$R^{4a}$	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	· <u>R</u> 7	<u>R</u> 6	X
<i>i-</i> Pr	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	$\mathbf{CH}$	<i>i-</i> Pr	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	F	CH
t-Bu	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	CH	t-Bu	6-C1	H	OCF <sub>3</sub>	F	CH
Me	6-Me	H	SCF <sub>3</sub>	F	CH	Me	6-C1	H	SCF <sub>3</sub>	F	CH
Et	6-Me	H	SCF <sub>3</sub>	F	CH	Et	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	F	CH
i-Pr	6-Me	H	SCF <sub>3</sub>	F	CH	<i>i</i> -Pr	6-C1	H	SCF <sub>3</sub>	F	CH
t-Bu	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	$\mathbf{F}$	CH	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	F	CH
Me	6-Me	H	$C_2F_5$	F	CH	Me	6-C1	H	$C_2F_5$	F	CH
Et	6-Me	$\mathbf{H}$	$C_2F_5$	F	$\mathbf{CH}$	Et	6-C1	$\mathbf{H}$	$C_2F_5$	F	CH
i-Pr	6-Me	$\mathbf{H}$	$C_2F_5$	$\mathbf{F}$	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	$C_2F_5$	F	CH
t-Bu	6-Me	H	$C_2F_5$	F	CH	t-Bu	6-C1	$\mathbf{H}$	$C_2F_5$	F	CH
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	CH	Me	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
<i>t</i> -Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	H	CN	F	CH	Me	6-C1	H	CN	F	CH
Et	6-Ме	$\mathbf{H}$	CN	F	CH	Et	6-C1	H	CN	F	CH
i-Pr	6-Me	H	CN	F	CH	i-Pr	6-C1	Н	CN	F	CH
t-Bu	6-Me	H	CN	F	CH	<i>t-</i> Bu	6-C1	H	CN	F	CH
Me	6-Me	H	OCHF <sub>2</sub>	C1	CH	Me	6-C1	$\mathbf{H}$	$OCHF_2$	Cl	CH
Et	6-Me	H	OCHF <sub>2</sub>	C1	СН	Et	6-C1	н	$OCHF_2$	C1	CH
i-Pr	6-Me	H	$OCHF_2$	C1	СН	<i>i-</i> Pr	6-C1	H	$OCHF_2$	C1	CH
t-Bu	6-Me	H	OCHF <sub>2</sub>	C1	CH	<i>t-</i> Bu	6-C1	H	$OCHF_2$	C1	CH
Me	6-Me	H	SCHF <sub>2</sub>	C1	CH	Me	6-C1	H	SCHF <sub>2</sub>	Cl	CH
Et	6-Me	H	SCHF <sub>2</sub>	C1	CH	Et	6-C1	H	SCHF <sub>2</sub>	C1	CH
i-Pr	6-Me	H	SCHF <sub>2</sub>	Cl	CH	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	C1	CH
t-Bu	6-Me	H	SCHF <sub>2</sub>	Cl	CH	t-Bu	6-C1	H	SCHF <sub>2</sub>	C1	CH
Me	6-Me	H	OCF <sub>3</sub>	Cl	CH	Me	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	Cl	CH
Et	6-Me	H	OCF <sub>3</sub>	Cl	CH	Et	6-C1	H	OCF <sub>3</sub>	C1	CH
i-Pr	6-Me	H	OCF <sub>3</sub>	C1	CH	i-Pr	6-C1	H	OCF <sub>3</sub>	C1	CH
t-Bu	6-Me	H	OCF <sub>3</sub>	C1	CH	t-Bu	6-C1	H	OCF <sub>3</sub>	Cl	CH
Me	6-Me	H	SCF <sub>3</sub>	Cl	CH	Me	6-Cl	H	SCF <sub>3</sub>	Cl	CH
Et	6-Ме	H	SCF <sub>3</sub>	Cl	CH	Et	6-C1	H	SCF <sub>3</sub>	Cl	CH
i-Pr	6-Me	H	SCF <sub>3</sub>	C1	СН	i-Pr	6-C1	H	SCF <sub>3</sub>	C1	CH

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
t-Bu	6-Ме	$\mathbf{H}$	SCF <sub>3</sub>	C1	CH	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	C1	CH
Me	6-Ме	H	$C_2F_5$	C1	CH	Me	6-C1	H	$C_2F_5$	C1	CH
Et	6-Ме	$\mathbf{H}$	$C_2F_5$	C1	CH	Et	6-C1	H	$C_2F_5$	Cl	CH
<i>i-</i> Pr	6-Me	$\mathbf{H}$	$C_2F_5$	Cl	CH	<i>i</i> -Pr	6-C1	H	$C_2F_5$	Cl	CH
t-Bu	6-Me	H	$C_2F_5$	C1	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	$C_2F_5$	Cl	CH
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	6-Cl	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
i-Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	i-Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
<i>i-</i> Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	i-Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	$\mathbf{H}$	CN	C1	CH	Me	6-C1	H	CN	C1	CH
Et	6-Me	H	CN	C1	CH	Et	6-C1	H	CN	C1	CH
i-Pr	6-Me	H	CN	C1	CH	i-Pr	6-C1	H	CN	Cl	CH
t-Bu	6-Me	$\mathbf{H}$	CN	Cl	CH	<i>t</i> -Bu	6-C1	H	CN	C1	CH
Me	6-Me	$\mathbf{H}$	OCHF <sub>2</sub>	Br	CH	Me	6-C1	$\mathbf{H}$	$OCHF_2$	Br	CH
Et	6-Me	$\mathbf{H}$	$OCHF_2$	Br	CH	Et	6-C1	H	$OCHF_2$	Br	CH
i-Pr	6-Me	$\mathbf{H}$	OCHF <sub>2</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	$OCHF_2$	Br	CH
t-Bu	6-Me	$\mathbf{H}$	OCHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	Br	CH
Me	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	Br	CH	Me	6-C1	H	SCHF <sub>2</sub>	Br	CH
Et	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	Br	CH	Et	6-C1	H	SCHF <sub>2</sub>	Br	CH
i-Pr	6-Me	H	SCHF <sub>2</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	Br	CH
t-Bu	6-Me	H	SCHF <sub>2</sub>	Br	CH	t-Bu	6-C1	H	SCHF <sub>2</sub>	Br	CH
Me	6-Ме	H	OCF <sub>3</sub>	Br	CH	Me	6-C1	H	OCF <sub>3</sub>	Br	CH
Et	6-Me	H	OCF <sub>3</sub>	Br	CH	Et	6-C1	H	OCF <sub>3</sub>	Br	CH
i-Pr	6-Me	H	OCF <sub>3</sub>	Br	CH	i-Pr	6-Cl	H	OCF <sub>3</sub>	Br	CH
t-Bu	6-Me	H	OCF <sub>3</sub>	Br	CH	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	Br	CH
Me	6-Me	H	SCF <sub>3</sub>	Br	CH	Me	6-C1	H	SCF <sub>3</sub>	Br	CH
Et	6-Me	H	SCF <sub>3</sub>	Br	CH	Et	6-C1	H	SCF <sub>3</sub>	Br	CH
i-Pr	6-Me	H	SCF <sub>3</sub>	Br	CH	i-Pr	6-C1	H	SCF <sub>3</sub>	Br	CH
t-Bu	6-Me	H	SCF <sub>3</sub>	Br	CH	t-Bu	6-C1	H	SCF <sub>3</sub>	Br	CH
Me	6-Ме	H	$C_2F_5$	Br	CH	Me	6-C1	H	$C_2F_5$	Br	CH
Et	6-Me	H	$C_2F_5$	Br	CH	Et	6-C1	H	$C_2F_5$	Br	CH
<i>i-</i> Pr	6-Me	H	$C_2F_5$	Br	CH	<i>i-</i> Pr	6-C1	H	$C_2F_5$	Br	CH
t-Bu	6-Me	Н	$C_2F_5$	Br	CH	t-Bu	6-C1	Н	$C_2F_5$	Br	CH

					02	-					
$\underline{\mathbb{R}^3}$	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	6-Ме	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Ме	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Ме	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Br	СН	Et	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	6-Ме	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Br	СН	<i>i-</i> Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	Н	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	H	CN	Br	CH	Me	6-C1	$\mathbf{H}$	CN	Br	CH
Et	6-Me	H	CN	Br	CH	Et	6-C1	H	CN	Br	CH
<i>i-</i> Pr	6-Me	H	CN	Br	CH	i-Pr	6-C1	H	CN	Br	CH
t-Bu	6-Me	H	CN	Br	CH	t-Bu	6-C1	H	CN	Br	CH
Me	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	$\mathbf{H}$	$OCHF_2$	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	н	$OCHF_2$	CF <sub>3</sub>	CH
t-Bu	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Ме	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	Η	SCF <sub>3</sub>	CF <sub>3</sub>	CH
<i>i</i> -Pr	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i</i> -Pr	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	SCF <sub>3</sub>	$CF_3$	CH	t-Bu	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	Me	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
Et	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	Et	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	i-Pr	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
t-Bu	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	t-Bu	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
Me	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-Cl	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Ме	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-Cl	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH

<u>R</u> 3	R <sup>4a</sup>	R4b	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
Et	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH	i-Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	Н	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	CN	CF <sub>3</sub>	CH	Me	6-C1	$\mathbf{H}$	CN	CF <sub>3</sub>	CH
Et	6-Me	$\mathbf{H}$	CN	CF <sub>3</sub>	CH	Et	6-C1	H	CN	CF <sub>3</sub>	CH
i-Pr	6-Ме	H	CN	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	CN	CF <sub>3</sub>	CH
t-Bu	6-Ме	H	CN	$CF_3$	CH	t-Bu	6-C1	H	CN	CF <sub>3</sub>	CH
Me	6-Me	C1	OCHF <sub>2</sub>	F	CH	Me	6-C1	C1	OCHF <sub>2</sub>	F	CH
Et	6-Me	C1	OCHF <sub>2</sub>	F	CH	Et	6-C1	Cl	OCHF <sub>2</sub>	F	CH
i-Pr	6-Me	C1	OCHF <sub>2</sub>	F	CH	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	F	CH
t-Bu	6-Me	C1	OCHF <sub>2</sub>	F	CH	<i>t</i> -Bu	6-C1	Cl	OCHF <sub>2</sub>	F	CH
Me	6-Ме	C1	SCHF <sub>2</sub>	F	CH	Me	6-C1	C1	SCHF <sub>2</sub>	F	CH
Et	6-Me	C1	SCHF <sub>2</sub>	F	CH	Et	6-C1	Cl	SCHF <sub>2</sub>	F	CH
<i>i-</i> Pr	6-Me	C1	schf <sub>2</sub>	F	CH	<i>i-</i> Pr	6-C1	C1	SCHF <sub>2</sub>	F	CH
t-Bu	6-Me	C1	$SCHF_2$	F	CH	<i>t</i> -Bu	6-C1	C1	SCHF <sub>2</sub>	F	CH
Me	6-Me	C1	OCF <sub>3</sub>	F	CH	Me	6-C1	C1	OCF <sub>3</sub>	F	CH
Et	6-Me	Cl	OCF <sub>3</sub>	F	CH	Et	6-C1	C1	OCF <sub>3</sub>	F	CH
i-Pr	6-Me	Cl	OCF <sub>3</sub>	F	CH	<i>i-</i> Pr	6-C1	Cl	OCF <sub>3</sub>	F	CH
t-Bu	6-Ме	Cl	OCF <sub>3</sub>	F	CH	<i>t</i> -Bu	6-C1	Cl	OCF <sub>3</sub>	F	CH
Me	6-Me	C1	SCF <sub>3</sub>	F	CH	Me	6-C1	C1	SCF <sub>3</sub>	F	CH
Et	6-Me	Cl	SCF <sub>3</sub>	F	CH	Et	6-Cl	C1	SCF <sub>3</sub>	F	CH
<i>i-</i> Pr	6-Me	C1	SCF <sub>3</sub>	F	CH	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	F	CH
t-Bu	6-Me	C1	SCF <sub>3</sub>	F	CH	t-Bu	6-C1	C1	SCF <sub>3</sub>	F	CH
Me	6-Me	C1	$C_2F_5$	F	CH	Me	6-C1	Cl	$C_2F_5$	F	CH
Et	6-Me	C1	$C_2F_5$	F	CH	Et	6-C1	C1	$C_2F_5$	F	CH
<i>i</i> -Pr	6-Me	C1	$C_2F_5$	F	CH	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	F	CH
t-Bu	6-Me	C1	$C_2F_5$	F	CH	<i>t-</i> Bu	6-C1	C1	$C_2F_5$	F	CH
Me	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-Cl	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-Cl	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-Cl	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-Cl	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Ме	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-Cl	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	Cl	CN	F	CH	Me	6-CI	Cl	CN	F	CH
Et	6-Ме	C1	CN	F	CH	Et	6-C1	C1	CN	F	CH

i-Pr         6-Me         CI         CN         F         CH         i-Pu         6-CI         CI         CN         F         CH           i-Bu         6-Me         CI         CNH         F         CH         i-Pu         6-CI         CI         CN         F         CH           Me         6-Me         CI         OCHF2         CI         CH         Me         6-CI         CI         OCHF2         CI         CH           i-Pr         6-Me         CI         OCHF2         CI         CH         i-Pr         6-CI         CI         OCHF2         CI         CH           i-Bu         6-Me         CI         OCHF2         CI         CH         i-Pr         6-CI         CI         OCHF2         CI         CH           i-Pr         6-Me         CI         SCHF2         CI         CH         Be         6-CI         CI         SCHF2         CI         CH         i-Pr         6-CI         CI         SCHF2         CI         CH         i-Pu         6-CI         CI         SCHF2         CI         CH         i-Pu         6-CI         CI         SCHF2         CI         CH         i-Pu         6-CI	<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 6	X
												CH
Me         6-Me         CI         OCHF2         CI         CH         Me         6-CI         CI         OCHF2         CI         CH           Et         6-Me         CI         OCHF2         CI         CH         Et         6-CI         CI         OCHF2         CI         CH           i-Pr         6-Me         CI         OCHF2         CI         CH         i-Pr         6-CI         CI         OCHF2         CI         CH           Me         6-Me         CI         SCHF2         CI         CH         Me         6-CI         CI         SCHF2         CI         CH         Et         6-CI         CI         SCHF2         CI         CH         i-Pr         6-CI         CI         SCHF2					F						F	CH
Et         6-Me         Cl         OCHF2         Cl         CH         Et         6-Cl         Cl         OCHF2         Cl         CH           i-Pr         6-Me         Cl         OCHF2         Cl         CH         i-Pr         6-Cl         Cl         OCHF2         Cl         CH           i-Bu         6-Me         Cl         OCHF2         Cl         CH         i-Pu         6-Cl         Cl         OCHF2         Cl         CH           i-Bu         6-Me         Cl         SCHF2         Cl         CH         Et         6-Cl         Cl         SCHF2         Cl         CH           i-Pr         6-Me         Cl         SCHF2         Cl         CH         i-Pr         6-Cl         Cl         SCHF2         Cl         CH           i-Pr         6-Me         Cl         SCHF2         Cl         CH         i-Pr         6-Cl         Cl         SCHF2         Cl         CH           i-Bu         6-Me         Cl         OCF3         Cl         CH         i-Pr         6-Cl         Cl         SCHF2         Cl         CH           i-Bu         6-Me         Cl         OCF3         Cl         CH	Me											CH
i-Pr         6-Me         Cl         OCHF2         Cl         CH         i-Pr         6-Cl         Cl         OCHF2         Cl         CH         i-Bu         6-Cl         Cl         OCHF2         Cl         CH         i-Bu         6-Cl         Cl         OCHF2         Cl         CH         i-Bu         6-Cl         Cl         OCHF2         Cl         CH         Me         6-Cl         Cl         OCHF2         Cl         CH         Me         6-Cl         Cl         SCHF2         Cl         CH         i-Pr         6-Cl         Cl         SCHF2         Cl         CH         i-Bu         6-Cl         Cl         SCHF2         Cl         CH         i-Bu         6-Cl         Cl         CDCF3         Cl         CH         i-Bu         6-Cl         Cl         CDCF3         Cl         CH         i-Bu         6-Cl         Cl         CDCF3         Cl         CH	Et	6-Me	Cl				Et			_	Cl	CH
Me         6-Me         Cl         SCHF2         Cl         CH         Me         6-Cl         Cl         SCHF2         Cl         CH         Et         6-Cl         Cl         SCHF2         Cl         CH         Et         6-Cl         Cl         SCHF2         Cl         CH         i-Pr         6-Cl         Cl         OCF3         Cl         CH         i-Pu         6-Cl         Cl         OCF3         Cl         CH         i-Pr         6-Cl         Cl         SCF3         Cl         CH         i-Pr <td><i>i-</i>Pr</td> <td>6-Me</td> <td>C1</td> <td>_</td> <td>C1</td> <td>СН</td> <td>i-Pr</td> <td>6-C1</td> <td>C1</td> <td>OCHF<sub>2</sub></td> <td>CI</td> <td>CH</td>	<i>i-</i> Pr	6-Me	C1	_	C1	СН	i-Pr	6-C1	C1	OCHF <sub>2</sub>	CI	CH
Et 6-Me Cl SCHF2 Cl CH Et 6-Cl Cl SCHF2 Cl CH i-Pr 6-Me Cl SCHF2 Cl CH i-Pr 6-Cl Cl SCHF2 Cl CH i-Pr 6-Me Cl SCHF2 Cl CH i-Pr 6-Cl Cl SCHF2 Cl CH i-Bu 6-Me Cl SCHF2 Cl CH i-Bu 6-Cl Cl SCHF2 Cl CH Me 6-Me Cl OCF3 Cl CH Me 6-Cl Cl OCF3 Cl CH Et 6-Me Cl OCF3 Cl CH Et 6-Cl Cl OCF3 Cl CH i-Pr 6-Me Cl OCF3 Cl CH i-Pr 6-Cl Cl OCF3 Cl CH i-Pr 6-Me Cl OCF3 Cl CH i-Pr 6-Cl Cl OCF3 Cl CH i-Pr 6-Me Cl OCF3 Cl CH i-Pr 6-Cl Cl OCF3 Cl CH i-Pr 6-Me Cl SCF3 Cl CH i-Pr 6-Cl Cl OCF3 Cl CH i-Pr 6-Me Cl SCF3 Cl CH i-Pr 6-Cl Cl SCF3 Cl CH i-Pr 6-Me Cl SCF3 Cl CH i-Pr 6-Cl Cl SCF3 Cl CH i-Pr 6-Me Cl SCF3 Cl CH i-Pr 6-Cl Cl SCF3 Cl CH i-Pr 6-Me Cl SCF3 Cl CH i-Pr 6-Cl Cl SCF3 Cl CH i-Pr 6-Me Cl SCF3 Cl CH i-Pr 6-Cl Cl SCF3 Cl CH i-Pr 6-Me Cl SCF3 Cl CH i-Pr 6-Cl Cl SCF3 Cl CH i-Pr 6-Me Cl Cl SCF5 Cl CH Me 6-Cl Cl SCF3 Cl CH i-Pr 6-Me Cl Cl C2F5 Cl CH i-Pr 6-Cl Cl C2F5 Cl CH i-Pr 6-Me Cl C2F5 Cl CH i-Pr 6-Cl Cl C2F5 Cl CH i-Pr 6-Me Cl C2F5 Cl CH i-Pr 6-Cl Cl C2F5 Cl CH i-Pr 6-Me Cl C2F5 Cl CH i-Pr 6-Cl Cl C2F5 Cl CH i-Pr 6-Me Cl C2F5 Cl CH i-Pr 6-Cl Cl C2F5 Cl CH i-Pr 6-Me Cl C-SCF7 Cl CH i-Pr 6-Cl Cl C-SCF5 Cl CH i-Pr 6-Me Cl C-SCF7 Cl CH i-Pr 6-Cl Cl C-SCF5 Cl CH i-Pr 6-Me Cl C-SCF7 Cl CH i-Pr 6-Cl Cl C-SCF5 Cl CH i-Pr 6-Me Cl C-SCF7 Cl CH i-Pr 6-Cl Cl C-SCF5 Cl CH i-Pr 6-Me Cl C-SCF7 Cl CH i-Pr 6-Cl Cl i-C3F7 Cl CH i-Pr 6-Me Cl i-C3F7 Cl CH i-Pr 6-Cl Cl i-C3F7 Cl CH i-Pr 6-Me Cl i-C3F7 Cl CH i-Pr 6-Cl Cl i-C3F7 Cl CH i-Pr 6-Me Cl i-C3F7 Cl CH i-Pr 6-Cl Cl i-C3F7 Cl CH i-Pr 6-Me Cl i-C3F7 Cl CH i-Pr 6-Cl Cl i-C3F7 Cl CH i-Pr 6-Me Cl i-C3F7 Cl CH i-Pr 6-Cl Cl i-C3F7 Cl CH i-Pr 6-Me Cl CN Cl CH i-Pr 6-Cl Cl CN Cl CH i-Pr 6-Me Cl CN Cl CH i-Pr 6-Cl Cl CN Cl CH i-Pr 6-Me Cl CN Cl CH i-Pr 6-Cl Cl CN Cl CH i-Pr 6-Me Cl CN Cl CH i-Pr 6-Cl Cl CN Cl CH i-Pr 6-Me Cl CN Cl CH i-Pr 6-Cl Cl CN Cl CH i-Pr 6-Me Cl CN Cl CH i-Pr 6-Cl Cl CN Cl CH i-Pr 6-Me Cl CN Cl CH i-Pr 6-Cl Cl CN Cl CH i-Pr 6-Me Cl CN Cl CH i-Pr 6-Cl Cl CN Cl CH i-Pr 6-Me Cl CN Cl CH i-Pr 6-Cl Cl CN Cl CH i-Pr 6-Me Cl CN Cl CH i-Pr 6-Cl Cl CN Cl CH i-Pr 6-Me Cl CN Cl CH i-Pr 6-C	t-Bu	6-Me	C1	OCHF <sub>2</sub>	Cl	СН	t-Bu	6-C1	C1	OCHF <sub>2</sub>	CI	CH
i-Pr         6-Me         Cl         SCHF2         Cl         CH         i-Pr         6-Cl         Cl         SCHF2         Cl         CH           t-Bu         6-Me         Cl         SCHF2         Cl         CH         i-Pu         6-Cl         Cl         SCHF2         Cl         CH           Me         6-Me         Cl         OCF3         Cl         CH         Me         6-Cl         Cl         OCF3         Cl         CH           Et         6-Me         Cl         OCF3         Cl         CH         i-Pr         6-Cl         Cl         OCF3         Cl         CH           heu         6-Me         Cl         OCF3         Cl         CH         i-Pu         6-Cl         Cl         OCF3         Cl         CH           heu         6-Me         Cl         SCF3         Cl         CH         Me         6-Cl         Cl         SCF3         Cl         CH           heu         6-Me         Cl         SCF3         Cl         CH         i-Pr         6-Cl         Cl         SCF3         Cl         CH           heu         6-Me         Cl         SCF3         Cl         CH         i-Pu <td>Me</td> <td>6-Me</td> <td>Cl</td> <td>SCHF<sub>2</sub></td> <td>Cl</td> <td>CH</td> <td>Me</td> <td>6-C1</td> <td>C1</td> <td>SCHF<sub>2</sub></td> <td>C1</td> <td>CH</td>	Me	6-Me	Cl	SCHF <sub>2</sub>	Cl	CH	Me	6-C1	C1	SCHF <sub>2</sub>	C1	CH
t-Bu         6-Me         CI         SCHF2         CI         CH         t-Bu         6-CI         CI         SCHF2         CI         CH           Me         6-Me         CI         OCF3         CI         CH         Me         6-CI         CI         OCF3         CI         CH           Et         6-Me         CI         OCF3         CI         CH         t-Pr         6-CI         CI         OCF3         CI         CH           Me         6-Me         CI         OCF3         CI         CH         t-Pr         6-CI         CI         OCF3         CI         CH           Me         6-Me         CI         SCF3         CI         CH         Me         6-CI         CI         SCF3         CI         CH         Et         6-CI         CI         SCF3         CI         CH         t-Pr         6-CI         CI         SCF3<	Et	6-Ме	Cl	SCHF <sub>2</sub>	C1	CH	Et	6-C1	Cl	SCHF <sub>2</sub>	C1	CH
Me         6-Me         CI         OCF3         CI         CH         Me         6-CI         CI         OCF3         CI         CH           Et         6-Me         CI         OCF3         CI         CH         Et         6-CI         CI         OCF3         CI         CH           i-Pr         6-Me         CI         OCF3         CI         CH         i-Pr         6-CI         CI         OCF3         CI         CH           Me         6-Me         CI         SCF3         CI         CH         He         6-CI         CI         SCF3         CI         CH         Et         6-CI         CI         SCF3         CI         CH         Et         6-CI         CI         SCF3         CI         CH         Incertain SCF3         CI         CH         In	<i>i</i> -Pr	6-Me	C1	SCHF <sub>2</sub>	C1	CH	<i>i-</i> Pr	6-Cl	C1	SCHF <sub>2</sub>	C1	CH
Et 6-Me CI OCF3 CI CH Et 6-CI CI OCF3 CI CH 1-Pr 6-Me CI OCF3 CI CH 1-Pr 6-CI CI OCF3 CI CH 1-Pr 6-Me CI OCF3 CI CH 1-Pr 6-CI CI OCF3 CI CH 1-Pr 6-Me CI OCF3 CI CH 1-Pr 6-CI CI OCF3 CI CH 1-Pr 6-Me CI SCF3 CI CH 1-Pr 6-CI CI SCF3 CI CH 1-Pr 6-Me CI SCF3 CI CH 1-Pr 6-CI CI SCF3 CI CH 1-Pr 6-Me CI SCF3 CI CH 1-Pr 6-CI CI SCF3 CI CH 1-Pr 6-Me CI SCF3 CI CH 1-Pr 6-CI CI SCF3 CI CH 1-Pr 6-Me CI SCF3 CI CH 1-Pr 6-CI CI SCF3 CI CH 1-Pr 6-Me CI C2-P5 CI CH 1-Pr 6-CI CI C2-P5 CI CH 1-Pr 6-Me CI C2-P5 CI CH 1-Pr 6-CI CI C2-P5 CI CH 1-Pr 6-Me CI C2-P5 CI CH 1-Pr 6-CI CI C2-P5 CI CH 1-Pr 6-Me CI C2-P5 CI CH 1-Pr 6-CI CI C2-P5 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N-C3-P7 CI CH 1-Pr 6-Me CI N-C3-P7 CI CH 1-Pr 6-CI CI N	t-Bu	6-Ме	C1	SCHF <sub>2</sub>	C1	CH	<i>t-</i> Bu	6-C1	C1	SCHF <sub>2</sub>	C1	CH
i-Pr         6-Me         CI         OCF3         CI         CH         i-Pr         6-CI         CI         OCF3         CI         CH           i-Bu         6-Me         CI         OCF3         CI         CH         i-Bu         6-CI         CI         OCF3         CI         CH           Me         6-Me         CI         SCF3         CI         CH         Et         6-CI         CI         SCF3         CI         CH           i-Pr         6-Me         CI         SCF3         CI         CH         i-Pr         6-CI         CI         SCF3         CI         CH           i-Bu         6-Me         CI         SCF3         CI         CH         i-Pa         6-CI         CI         SCF3         CI         CH           i-Bu         6-Me         CI         C2F5         CI         CH         Me         6-CI         CI         C2F5         CI         CH           i-Pr         6-Me         CI         C2F5         CI         CH         i-Pr         6-CI         CI         C2F5         CI         CH           i-Bu         6-Me         CI         n-C3F7         CI         CH         i-Pr	Me	6-Ме	Cl	OCF <sub>3</sub>	Cl	CH	Me	6-C1	Cl	OCF <sub>3</sub>	Cl	CH
t-Bu 6-Me Cl OCF3 Cl CH t-Bu 6-Cl Cl OCF3 Cl CH  Me 6-Me Cl SCF3 Cl CH Me 6-Cl Cl SCF3 Cl CH  Et 6-Me Cl SCF3 Cl CH Et 6-Cl Cl SCF3 Cl CH  t-Bu 6-Me Cl SCF3 Cl CH Et 6-Cl Cl SCF3 Cl CH  t-Bu 6-Me Cl SCF3 Cl CH t-Bu 6-Cl Cl SCF3 Cl CH  Me 6-Me Cl SCF3 Cl CH Me 6-Cl Cl SCF3 Cl CH  Me 6-Me Cl C2F5 Cl CH Me 6-Cl Cl C2F5 Cl CH  t-Bu 6-Me Cl C2F5 Cl CH Et 6-Cl Cl C2F5 Cl CH  t-Bu 6-Me Cl C2F5 Cl CH t-Bu 6-Cl Cl C2F5 Cl CH  t-Bu 6-Me Cl C2F5 Cl CH t-Bu 6-Cl Cl C2F5 Cl CH  t-Bu 6-Me Cl C2F5 Cl CH t-Bu 6-Cl Cl C2F5 Cl CH  Me 6-Me Cl M-C3F7 Cl CH Me 6-Cl Cl M-C3F7 Cl CH  Et 6-Me Cl M-C3F7 Cl CH Et 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH Et 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH t-Bu 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH Et 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH t-Bu 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH t-Bu 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH t-Bu 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH t-Bu 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH Me 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH Et 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH Et 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH Et 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH T-Bu 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH T-Bu 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl M-C3F7 Cl CH T-Bu 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl M-C3F7 Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH  t-Bu 6-Me Cl CN Cl CH T-Bu 6-Cl Cl CN Cl CH	Et	6-Me	C1	OCF <sub>3</sub>	Cl	CH	Et	6-C1	Cl	OCF <sub>3</sub>	C1	CH
Me         6-Me         CI         SCF3         CI         CH         Me         6-CI         CI         SCF3         CI         CH           Et         6-Me         CI         SCF3         CI         CH         Et         6-CI         CI         SCF3         CI         CH           i-Pr         6-Me         CI         SCF3         CI         CH         i-Pr         6-CI         CI         SCF3         CI         CH           Me         6-Me         CI         SCF3         CI         CH         i-Pr         6-CI         CI         SCF3         CI         CH           Me         6-Me         CI         C2F5         CI         CH         Me         6-CI         CI         C2F5         CI         CH           i-Pr         6-Me         CI         C2F5         CI         CH         i-Pr         6-CI         CI         C2F5         CI         CH           i-Bu         6-Me         CI         n-C3F7         CI         CH         Me         6-CI         CI         n-C3F7         CI         CH           i-Pr         6-Me         CI         n-C3F7         CI         CH         i-Pr	<i>i</i> -Pr	6-Ме	Cl	OCF <sub>3</sub>	Cl	CH	i-Pr	6-C1	Cl	OCF <sub>3</sub>	C1	CH
Et 6-Me Cl SCF3 Cl CH Et 6-Cl Cl SCF3 Cl CH t-Bu 6-Me Cl SCF5 Cl CH t-Bu 6-Me Cl C2F5 Cl CH Me 6-Cl Cl C2F5 Cl CH t-Bu 6-Me Cl C2F5 Cl CH Me 6-Cl Cl C2F5 Cl CH t-Bu 6-Me Cl C2F5 Cl CH Me 6-Cl Cl C2F5 Cl CH t-Bu 6-Me Cl C2F5 Cl CH T-Bu 6-Cl Cl C2F5 Cl CH t-Bu 6-Me Cl C2F5 Cl CH T-Bu 6-Cl Cl C2F5 Cl CH t-Bu 6-Me Cl C2F5 Cl CH T-Bu 6-Cl Cl C2F5 Cl CH t-Bu 6-Me Cl C2F5 Cl CH T-Bu 6-Cl Cl C2F5 Cl CH T-Bu 6-Me Cl C2F5 Cl CH T-Bu 6-Cl Cl C2F5 Cl CH T-C3F7	<i>t</i> -Bu	6-Ме	C1	OCF <sub>3</sub>	C1	СН	t-Bu	6-C1	Cl .	OCF <sub>3</sub>	Cl	CH
$i$ -Pr $6$ -Me         Cl         SCF3         Cl         CH $i$ -Pr $6$ -Cl         Cl         SCF3         Cl         CH $t$ -Bu $6$ -Me         Cl         SCF3         Cl         CH $t$ -Bu $6$ -Cl         Cl         SCF3         Cl         CH           Me $6$ -Me         Cl $C_2F_5$ Cl         CH         Me $6$ -Cl         Cl $C_2F_5$ Cl         CH $i$ -Pr $6$ -Me         Cl $C_2F_5$ Cl         CH $i$ -Pr $6$ -Cl         Cl $C_2F_5$ Cl         CH $i$ -Pr $6$ -Me         Cl $C_2F_5$ Cl         CH $i$ -Pr $6$ -Cl         Cl $C_2F_5$ Cl         CH $i$ -Pu $6$ -Me         Cl $n$ -C3F7         Cl         CH         Me $6$ -Cl         Cl $n$ -C3F7         Cl         CH $i$ -Pr $i$ -Me $i$ -Cl $i$ -C3F7         Cl         CH $i$ -Pr $i$ -Cl $i$ -Cl $i$ -Ch $i$ -Pr $i$ -Me $i$ -Cl $i$	Me	6-Me	Cl	SCF <sub>3</sub>	C1	CH	Ме	6-C1	Cl	SCF <sub>3</sub>	C1	CH
$t$ -Bu $6$ -Me         Cl         SCF3         Cl         CH $t$ -Bu $6$ -Cl         Cl         SCF3         Cl         CH           Me $6$ -Me         Cl $C_2F_5$ Cl         CH         Me $6$ -Cl         Cl $C_2F_5$ Cl         CH           Et $6$ -Me         Cl $C_2F_5$ Cl         CH $t$ -Pr $6$ -Cl         Cl $C_2F_5$ Cl         CH $t$ -Bu $6$ -Me         Cl $C_2F_5$ Cl         CH $t$ -Pr $6$ -Cl         Cl $C_2F_5$ Cl         CH $t$ -Bu $6$ -Me         Cl $n$ - $C_3F_7$ Cl         CH $t$ -Bu $6$ -Cl         Cl $n$ - $C_3F_7$ Cl         CH $t$ -Pr $6$ -Cl         Cl $n$ - $C_3F_7$ Cl         CH $t$ -Pr $6$ -Cl         Cl $n$ - $C_3F_7$ Cl         CH $t$ -Pr $6$ -Cl         Cl $n$ - $C_3F_7$ Cl         CH $t$ -Pr $6$ -Cl         Cl $n$ - $C_3F_7$ Cl         CH $t$ -Bu $6$ -Cl         Cl <t< td=""><td>Et</td><td>6-Me</td><td>Cl</td><td>SCF<sub>3</sub></td><td>Cl</td><td>CH</td><td>Et</td><td>6-C1</td><td>C1</td><td>SCF<sub>3</sub></td><td>Cì</td><td>CH</td></t<>	Et	6-Me	Cl	SCF <sub>3</sub>	Cl	CH	Et	6-C1	C1	SCF <sub>3</sub>	Cì	CH
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	i-Pr	6-Me	C1	SCF <sub>3</sub>	C1	CH	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	C1	CH
Et 6-Me Cl $C_2F_5$ Cl CH Et 6-Cl Cl $C_2F_5$ Cl CH $i\text{-Pr}$ 6-Me Cl $C_2F_5$ Cl CH $i\text{-Pr}$ 6-Cl Cl $C_2F_5$ Cl CH $i\text{-Pr}$ 6-Cl Cl $C_2F_5$ Cl CH $i\text{-Bu}$ 6-Me Cl $C_2F_5$ Cl CH $i\text{-Bu}$ 6-Cl Cl $C_2F_5$ Cl CH Me 6-Me Cl $n\text{-}C_3F_7$ Cl CH Me 6-Cl Cl $n\text{-}C_3F_7$ Cl CH Et 6-Me Cl $n\text{-}C_3F_7$ Cl CH Et 6-Cl Cl $n\text{-}C_3F_7$ Cl CH $i\text{-Pr}$ 6-Cl Cl $i\text{-}C_3F_7$ Cl CH Me 6-Cl Cl $i\text{-}C_3F_7$ Cl CH Me 6-Me Cl $i\text{-}C_3F_7$ Cl CH Me 6-Cl Cl $i\text{-}C_3F_7$ Cl CH $i\text{-Pr}$ 6-Cl Cl $i\text{-}C_3F_7$ Cl CH $i\text{-Pr}$ 6-Me Cl $i\text{-}C_3F_7$ Cl CH $i\text{-}Pr$ 6-Cl Cl CN Cl CH $i\text{-}Pr$ 6-Me Cl CN Cl CN Cl CH $i\text{-}Pr$ 6-Cl Cl CN Cl CH $i\text{-}Pr$ 6-Me Cl CN Cl CN Cl CH $i\text{-}Pr$ 6-Cl Cl CN Cl CH $i\text{-}P$	t-Bu	6-Me	Cl	SCF <sub>3</sub>	C1	CH	t-Bu	6-C1	C1	SCF <sub>3</sub>	Cl	CH
$i\text{-Pr}$ 6-Me Cl C <sub>2</sub> F <sub>5</sub> Cl CH $i\text{-Pr}$ 6-Cl Cl C <sub>2</sub> F <sub>5</sub> Cl CH $i\text{-Bu}$ 6-Me Cl C <sub>2</sub> F <sub>5</sub> Cl CH $i\text{-Bu}$ 6-Me Cl C <sub>2</sub> F <sub>5</sub> Cl CH $i\text{-Bu}$ 6-Cl Cl C <sub>2</sub> F <sub>5</sub> Cl CH Me 6-Me Cl $n\text{-C}_3$ F <sub>7</sub> Cl CH Me 6-Cl Cl $n\text{-C}_3$ F <sub>7</sub> Cl CH Et 6-Me Cl $n\text{-C}_3$ F <sub>7</sub> Cl CH Et 6-Cl Cl $n\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Me Cl $n\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Cl Cl $n\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Me Cl $n\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Cl Cl $n\text{-C}_3$ F <sub>7</sub> Cl CH Me 6-Me Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH Me 6-Cl Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH Me 6-Me Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH Me 6-Cl Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH Et 6-Me Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH Et 6-Cl Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Cl Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Cl Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Me Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Cl Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Cl Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Me Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Cl Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Me Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Cl Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Me Cl Cl CN Cl CH $i\text{-Pr}$ 6-Cl Cl $i\text{-C}_3$ F <sub>7</sub> Cl CH $i\text{-Pr}$ 6-Me Cl CN Cl CH $i\text{-Pr}$ 6-Cl Cl CN Cl CH $i\text{-Pr}$ 6-Me Cl CN Cl CH $i\text{-Pr}$ 6-Cl Cl CN Cl CH $i\text{-Pr}$ 6-Me Cl CN Cl CH $i\text{-Pr}$ 6-Cl Cl CN Cl CH $i\text{-Pr}$ 6-Me Cl CN Cl CH $i\text{-Pr}$ 6-Cl Cl CN Cl CH $i\text{-Pr}$ 6-Me Cl CN Cl CH $i\text{-Pr}$ 6-Cl Cl CN Cl CH $i\text{-Pr}$ 6-Me Cl CN Cl CH $i\text{-Pr}$ 6-Cl Cl CN Cl CH $i\text{-Pr}$ 6-Cl Cl CN Cl CH $i\text{-Pr}$ 6-Me Cl CN Cl CH $i\text{-Pr}$ 6-Cl Cl CN Cl CH $i\text{-Pr}$ 6-	Me	6-Me	Cl	$C_2F_5$	Cl	CH	Ме	6-Cl	CI	$C_2F_5$	Cl	CH
$t ext{-Bu}$ $6 ext{-Me}$ $C1$ $C_2F_5$ $C1$ $C_2F_5$ $C1$ $C_1$ $C_2F_5$ $C1$ $C_2F_5$ $C1$ $C_1$ $C_2F_5$ $C1$ $C_1$ $C_1$ $C_2F_5$ $C1$ $C_1$ $C_2$ $C_1$ $C_1$ $C_1$ $C_2$ $C_1$ $C_1$ $C_1$ $C_2$ $C_1$ $C_1$ $C_2$ $C_1$ $C_1$ $C_2$ $C_1$ $C_2$ $C_1$ $C_1$ $C_2$ $C_1$ $C_2$ $C_1$ $C_1$ $C_2$ $C_1$ $C_1$ $C_2$ $C_1$ $C_1$ $C_1$ $C_2$ $C_1$	Et	6-Me	C1	$C_2F_5$	C1	CH	Et	6-C1	Cl	$C_2F_5$	Cl	CH
Me         6-Me         Cl         n-C <sub>3</sub> F <sub>7</sub> Cl         CH         Me         6-Cl         Cl         n-C <sub>3</sub> F <sub>7</sub> Cl         CH           Et         6-Me         Cl         n-C <sub>3</sub> F <sub>7</sub> Cl         CH         Et         6-Cl         Cl         n-C <sub>3</sub> F <sub>7</sub> Cl         CH            i-Pr         6-Me         Cl         n-C <sub>3</sub> F <sub>7</sub> Cl         CH         i-Pr         6-Cl         Cl         n-C <sub>3</sub> F <sub>7</sub> Cl         CH           Me         6-Me         Cl         i-C <sub>3</sub> F <sub>7</sub> Cl         CH         Me         6-Cl         Cl         i-C <sub>3</sub> F <sub>7</sub> Cl         CH           Me         6-Me         Cl         i-C <sub>3</sub> F <sub>7</sub> Cl         CH         Et         6-Cl         Cl         i-C <sub>3</sub> F <sub>7</sub> Cl         CH           i-Pr         6-Me         Cl         i-C <sub>3</sub> F <sub>7</sub> Cl         CH         i-Pr         6-Cl         Cl         i-C <sub>3</sub> F <sub>7</sub> Cl         CH           i-Pr         6-Me         Cl         i-C <sub>3</sub> F <sub>7</sub> Cl         CH         i-Pr         6-Cl         Cl         i-C <sub>3</sub> F <sub>7</sub> Cl         CH           i-Bu         6-Me         Cl	<i>i-</i> Pr	6-Me	C1	$C_2F_5$	C1	CH	i-Pr	6-C1	C1	$C_2F_5$	C1	CH
Et 6-Me Cl $n$ -C $_3$ F $_7$ Cl CH Et 6-Cl Cl $n$ -C $_3$ F $_7$ Cl CH $i$ -Pr 6-Me Cl $n$ -C $_3$ F $_7$ Cl CH $i$ -Pr 6-Cl Cl $n$ -C $_3$ F $_7$ Cl CH $i$ -Pr 6-Cl Cl $n$ -C $_3$ F $_7$ Cl CH $i$ -Bu 6-Me Cl $i$ -C $_3$ F $_7$ Cl CH $i$ -Bu 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH Me 6-Me Cl $i$ -C $_3$ F $_7$ Cl CH Me 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH Et 6-Me Cl $i$ -C $_3$ F $_7$ Cl CH Et 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH $i$ -Pr 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH $i$ -Pr 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH $i$ -Pr 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH $i$ -Bu 6-Me Cl $i$ -C $_3$ F $_7$ Cl CH $i$ -Bu 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH Me 6-Me Cl $i$ -C $_3$ F $_7$ Cl CH Me 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH $i$ -Pr 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH Et 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CN Cl CH $i$ -Pr 6-Cl CN Cl CN CN Cl CH $i$ -Pr 6-Cl CN Cl CN Cl CN CN Cl CH $i$ -Pr 6-Cl CN CN CN Cl CN CN $i$ -Pr 6-Cl CN CN CN $i$ -Pr 6-Cl CN $i$ -Pr 6	t-Bu	6-Me	Cl	$C_2F_5$	C1	CH	t-Bu	6-C1	Cl	$C_2F_5$	C1	CH
$i\text{-Pr}$ 6-Me Cl $n\text{-C}_3F_7$ Cl CH $i\text{-Pr}$ 6-Cl Cl $n\text{-C}_3F_7$ Cl CH $t\text{-Bu}$ 6-Me Cl $n\text{-C}_3F_7$ Cl CH $t\text{-Bu}$ 6-Cl Cl $n\text{-C}_3F_7$ Cl CH Me 6-Me Cl $i\text{-C}_3F_7$ Cl CH Me 6-Cl Cl $i\text{-C}_3F_7$ Cl CH Et 6-Me Cl $i\text{-C}_3F_7$ Cl CH Et 6-Cl Cl $i\text{-C}_3F_7$ Cl CH $i\text{-Pr}$ 6-Cl Cl $i\text{-C}_3F_7$ Cl CH $t\text{-Bu}$ 6-Cl Cl CN Cl CH $t\text{-Bu}$ 6-Cl Cl Cl CH $t\text{-Bu}$ 6-Cl Cl Cl CH $t\text{-Bu}$	Me	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
$t ext{-Bu}$ 6-Me Cl $n ext{-}C_3F_7$ Cl CH $t ext{-Bu}$ 6-Cl Cl $n ext{-}C_3F_7$ Cl CH Me 6-Me Cl $i ext{-}C_3F_7$ Cl CH Me 6-Cl Cl $i ext{-}C_3F_7$ Cl CH Et 6-Me Cl $i ext{-}C_3F_7$ Cl CH Et 6-Cl Cl $i ext{-}C_3F_7$ Cl CH $t ext{-}Pr$ 6-Me Cl $i ext{-}C_3F_7$ Cl CH $t ext{-}Pr$ 6-Cl Cl $i ext{-}C_3F_7$ Cl CH $t ext{-}Pr$ 6-Cl Cl $i ext{-}C_3F_7$ Cl CH Me 6-Me Cl $i ext{-}C_3F_7$ Cl CH Me 6-Cl Cl $i ext{-}C_3F_7$ Cl CH Et 6-Me Cl CN Cl CH Me 6-Cl Cl CN Cl CH $t ext{-}Pr$ 6-Me Cl CN Cl CH Et 6-Cl Cl CN Cl CH $t ext{-}Pr$ 6-Me Cl CN Cl CH $t ext{-}Pr$ 6-Cl Cl CN Cl CH $t ext{-}Pr$ 6-Me Cl CN Cl CH $t ext{-}Pr$ 6-Cl Cl CN Cl CH $t ext{-}Pr$ 6-Cl Cl CN Cl CH $t ext{-}Pr$ 6-Me Cl CN Cl CH $t ext{-}Pr$ 6-Cl Cl CH	Et	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me 6-Me Cl $i$ -C <sub>3</sub> F <sub>7</sub> Cl CH Me 6-Cl Cl $i$ -C <sub>3</sub> F <sub>7</sub> Cl CH Et 6-Me Cl $i$ -C <sub>3</sub> F <sub>7</sub> Cl CH Et 6-Cl Cl $i$ -C <sub>3</sub> F <sub>7</sub> Cl CH $i$ -Pr 6-Me Cl $i$ -C <sub>3</sub> F <sub>7</sub> Cl CH $i$ -Pr 6-Cl Cl $i$ -C <sub>3</sub> F <sub>7</sub> Cl CH $i$ -Bu 6-Me Cl $i$ -C <sub>3</sub> F <sub>7</sub> Cl CH $i$ -Bu 6-Cl Cl $i$ -C <sub>3</sub> F <sub>7</sub> Cl CH Me 6-Me Cl CN Cl CH Me 6-Cl Cl $i$ -C <sub>3</sub> F <sub>7</sub> Cl CH Et 6-Me Cl CN Cl CH Et 6-Cl Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Bu 6-Me Cl CN Cl CH $i$ -Bu 6-Cl Cl CN Cl CH $i$ -Pr C-Cl Cl CN Cl CH $i$ -Pr C-Cl Cl CN Cl CH $i$ -Pr C-Cl Cl CH $i$ -Pr C-Cl Cl CH $i$ -Pr C-Cl CH $i$ -Pr C-Cl Cl CH $i$ -Pr C-Cl Cl CH $i$ -Pr C-Cl CH $i$ -Pr C-Cl Cl CH $i$ -Pr C-Cl Cl CH $i$ -Pr C-Cl Cl CH $i$ -Pr C-Cl CH $i$ -Pr C-Cl Cl CH $i$ -Pr C-Cl CH $i$ -Pr C-Cl CH $i$ -Pr C-Cl Cl CH $i$ -Pr C-Cl CH $i$ -	i-Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	i-Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Et 6-Me Cl $i$ -C $_3$ F $_7$ Cl CH Et 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH $i$ -Pr 6-Me Cl $i$ -C $_3$ F $_7$ Cl CH $i$ -Pr 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH $i$ -Bu 6-Me Cl $i$ -C $_3$ F $_7$ Cl CH $i$ -Bu 6-Cl Cl $i$ -C $_3$ F $_7$ Cl CH Me 6-Me Cl CN Cl CH Me 6-Cl Cl CN Cl CH Et 6-Me Cl CN Cl CH Et 6-Cl Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $i$ -Pr 6-Cl Cl CN Cl CH $i$ -Bu 6-Me Cl CN Cl CH $i$ -Bu 6-Cl Cl CN Cl CH $i$ -Bu 6-Me Cl CN Cl CH $i$ -Bu 6-Cl Cl CN Cl CH $i$ -Bu 6-Me Cl CN Cl CH $i$ -Bu 6-Cl Cl CN Cl CH $i$ -Bu 6-Me Cl OCHF $_2$ Br CH Me 6-Cl Cl OCHF $_2$ Br CH Et 6-Cl Cl OCHF $_2$ Br CH	<i>t</i> -Bu	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	<b>C</b> 1	CH	t-Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
$i ext{-Pr}$ 6-Me Cl $i ext{-C}_3F_7$ Cl CH $i ext{-Pr}$ 6-Cl Cl $i ext{-C}_3F_7$ Cl CH $t ext{-Bu}$ 6-Me Cl $i ext{-C}_3F_7$ Cl CH $t ext{-Bu}$ 6-Cl Cl $i ext{-C}_3F_7$ Cl CH Me 6-Cl Cl $i ext{-C}_3F_7$ Cl CH Et 6-Me Cl CN Cl CH Et 6-Cl Cl CN Cl CH $i ext{-Pr}$ 6-Me Cl CN Cl CH $i ext{-Pr}$ 6-Cl Cl CN Cl CH $i ext{-Pr}$ 6-Me Cl CN Cl CH $i ext{-Pr}$ 6-Cl Cl CN Cl CH $t ext{-Bu}$ 6-Me Cl CN Cl CH $t ext{-Bu}$ 6-Cl Cl CN Cl CH Me 6-Me Cl OCHF2 Br CH Me 6-Cl Cl OCHF2 Br CH Et 6-Me Cl OCHF2 Br CH	Me	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
$t ext{-Bu}$ 6-Me Cl $i ext{-C}_3F_7$ Cl CH $t ext{-Bu}$ 6-Cl Cl $i ext{-C}_3F_7$ Cl CH Me 6-Me Cl CN Cl CH Me 6-Cl Cl CN Cl CH Et 6-Me Cl CN Cl CH Et 6-Cl Cl CN Cl CH $i ext{-Pr}$ 6-Me Cl CN Cl CH $i ext{-Pr}$ 6-Cl Cl CN Cl CH $t ext{-Bu}$ 6-Cl Cl CN Cl CH $t ext{-Bu}$ 6-Cl Cl CN Cl CH Me 6-Me Cl CN Cl CH $t ext{-Bu}$ 6-Cl Cl CN Cl CH $t ext{-Bu}$ 6-Cl Cl CN Cl CH $t ext{-Bu}$ 6-Cl Cl OCHF2 Br CH Et 6-Me Cl OCHF2 Br CH	Et	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me         6-Me         Cl         CN         Cl         CH         Me         6-Cl         Cl         CN         Cl         CH           Et         6-Me         Cl         CN         Cl         CH         Et         6-Cl         Cl         CN         Cl         CH           i-Pr         6-Me         Cl         CN         Cl         CH         i-Pr         6-Cl         Cl         CN         Cl         CH           t-Bu         6-Me         Cl         CN         Cl         CH         t-Bu         6-Cl         Cl         CN         Cl         CH           Me         6-Me         Cl         OCHF2         Br         CH         Me         6-Cl         Cl         OCHF2         Br         CH           Et         6-Me         Cl         OCHF2         Br         CH         Et         6-Cl         Cl         OCHF2         Br         CH	i-Pr	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	i-Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
Et 6-Me Cl CN Cl CH Et 6-Cl Cl CN Cl CH $i$ -Pr 6-Me Cl CN Cl CH $t$ -Bu 6-Me Cl CN Cl CH $t$ -Bu 6-Me Cl OCHF $_2$ Br CH Me 6-Me Cl OCHF $_2$ Br CH Et 6-Cl Cl OCHF $_2$ Br CH Et 6-Cl Cl OCHF $_2$ Br CH	t-Bu	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	t-Bu	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
i-Pr6-MeClCNClCH $i-Pr$ 6-ClClCNClCH $t-Bu$ 6-MeClCNClCH $t-Bu$ 6-ClClCNClCHMe6-MeClOCHF2BrCHMe6-ClClOCHF2BrCHEt6-MeClOCHF2BrCHEt6-ClClOCHF2BrCH	Me	6-Me	C1	CN	C1	CH	Me	6-C1	Cl	CN	C1	CH
$t ext{-Bu}$ 6-Me Cl CN Cl CH $t ext{-Bu}$ 6-Cl Cl CN Cl CH Me 6-Cl Cl OCHF2 Br CH Et 6-Me Cl OCHF2 Br CH Et 6-Cl Cl OCHF2 Br CH	Et	6-Me	Cl	CN	C1	CH	Et	6-C1	C1	CN	C1	CH
Me 6-Me Cl OCHF <sub>2</sub> Br CH Me 6-Cl Cl OCHF <sub>2</sub> Br CH Et 6-Me Cl OCHF <sub>2</sub> Br CH Et 6-Cl Cl OCHF <sub>2</sub> Br CH	i-Pr	6-Me	C1	CN	<b>C</b> 1	CH	i-Pr	6-C1	C1	CN	Cl	CH
Et 6-Me Cl OCHF <sub>2</sub> Br CH Et 6-Cl Cl OCHF <sub>2</sub> Br CH	<i>t</i> -Bu	6-Me	Cl	CN	C1	CH	t-Bu	6-C1	Cl	CN	Cl	CH
_	Me	6-Me	Cl	OCHF <sub>2</sub>	Br	CH	Me	6-C1	Cl	OCHF <sub>2</sub>	Br	CH
$i ext{-Pr}$ 6-Me Cl OCHF $_2$ Br CH $i ext{-Pr}$ 6-Cl Cl OCHF $_2$ Br CH	Et	6-Me	Cl	OCHF <sub>2</sub>	Br	CH	Et	6-Cl	Cl	OCHF <sub>2</sub>	Br	CH
	i-Pr	6-Me	Cl	OCHF <sub>2</sub>	Br	CH	i-Pr	6-Cl	Cl	OCHF <sub>2</sub>	Br	CH

$\mathbb{R}^3$	$\mathbb{R}^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{X}}$	<u>R</u> 3	$R^{4a}$	$\underline{R^{4b}}$	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{X}}$
t-Bu	6-Me	C1	OCHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	6-C1	Cl	OCHF <sub>2</sub>	Br-	CH
Me	6-Me	C1	SCHF <sub>2</sub>	Br	CH	Me	6-C1	C1	SCHF <sub>2</sub>	Br	CH
Et	6-Me	C1	SCHF <sub>2</sub>	Br	CH	Et	6-C1	C1	SCHF <sub>2</sub>	Br	CH
<i>i-</i> Pr	6-Me	C1	SCHF <sub>2</sub>	Br	CH	<i>i</i> -Pr	6-C1	C1	SCHF <sub>2</sub>	Br	CH
t-Bu	6-Ме	Cl	SCHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	6-C1	C1	$SCHF_2$	Br	CH
Me	6-Ме	Cl	OCF <sub>3</sub>	Br	CH	Me	6-C1	C1	OCF <sub>3</sub>	Br	CH
Et	6-Me	Cl	OCF <sub>3</sub>	Br	CH	Et	6-C1	C1	OCF <sub>3</sub>	Br	CH
<i>i-</i> Pr	6-Me	C1	OCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-C1	Cl	OCF <sub>3</sub>	Br	CH
t-Bu	6-Me	Cl	OCF <sub>3</sub>	Br	CH	t-Bu	6-C1	Cl	OCF <sub>3</sub>	Br	CH
Me	6-Me	Cl	SCF <sub>3</sub>	Br	CH	Me	6-C1	Cl	SCF <sub>3</sub>	Br	CH
Et	6-Me	C1	SCF <sub>3</sub>	Br	CH	Et	6-C1	Cl	SCF <sub>3</sub>	Br	CH
i-Pr	6-Me	C1	SCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	Br	CH
t-Bu	6-Me	C1	SCF <sub>3</sub>	Br	CH	t-Bu	6-C1	C1	SCF <sub>3</sub>	Br	CH
Me	6-Me	C1	$C_2F_5$	Br	CH	Ме	6-C1	C1	$C_2F_5$	Br	CH
Et	6-Me	C1	$C_2F_5$	Br	CH	Et	6-C1	C1	$C_2F_5$	Br	CH
<i>i-</i> Pr	6-Me	C1	$C_2F_5$	Br	CH	<i>i</i> -Pr	6-C1	C1	$C_2F_5$	Br	CH
t-Bu	6-Me	C1	$C_2F_5$	Br	CH	t-Bu	6-Cl	Cl	$C_2F_5$	Br	CH
Me	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
i-Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	i-Pr	6- <b>C</b> 1	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t</i> -Bu	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
i-Pr	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	i-Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	Cl	CN	Br	CH	Me	6-C1	C1	CN	Br	CH
Et	6-Me	C1	CN	Br	CH	Et	6-C1	C1	CN	Br	CH
<i>i</i> -Pr	6-Ме	Cl	CN	Br	CH	i-Pr	6-Cl	CI	CN	Br	CH
t-Bu	6-Me	C1	CN	$\mathbf{Br}$	CH	<i>t</i> -Bu	6-C1	Cl	CN	Br	CH
Me	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	OCHF <sub>2</sub>	$CF_3$	CH	t-Bu	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Me	C1	SCHF <sub>2</sub>	$CF_3$	CH	Me	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	СН
i-Pr	6-Me	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	SCHF <sub>2</sub>	$CF_3$	CH	t-Bu	6-C1	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	CH

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>	<u>R</u> 3	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	X
Me	6-Ме	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Ме	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	CI	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-CI	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t-</i> Bu	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	<b>C</b> 1	SCF <sub>3</sub>	$CF_3$	CH	Me	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH	t-Bu	6-Cl	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Ме	Cl	$C_2F_5$	CF <sub>3</sub>	CH	Me	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>	CH
Et	6-Ме	Cl	$C_2F_5$	CF <sub>3</sub>	CH	Et	6-C1	C1	$C_2F_5$	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	CH	i-Pr	6-C1	C1	$C_2F_5$	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	CH	t-Bu	6-C1	C1	$C_2F_5$	CF <sub>3</sub>	CH
Me	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH	Et	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	i-Pr	6-CI	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Ме	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Ме	C1	CN	CF <sub>3</sub>	CH	Me	6-C1	C1	CN	CF <sub>3</sub>	CH
Et	6-Ме	C1	CN	CF <sub>3</sub>	CH	Et	6-C1	C1	CN	CF <sub>3</sub>	CH
i-Pr	6-Me	C1	CN	CF <sub>3</sub>	CH	i-Pr	6-C1	C1	CN	CF <sub>3</sub>	CH
t-Bu	6-Ме	C1	CN	CF <sub>3</sub>	CH	t-Bu	6-C1	C1	CN	CF <sub>3</sub>	CH
Me	6-Ме	H	OCHF <sub>2</sub>	F	CF	Me	6-C1	H	OCHF <sub>2</sub>	F	CF
Et	6-Me	H	OCHF <sub>2</sub>	F	CF	Et	6-Cl	H	OCHF <sub>2</sub>	F	CF
<i>i-</i> Pr	6-Ме	$\mathbf{H}$	OCHF <sub>2</sub>	F	CF	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	F	CF
t-Bu	6-Me	H	OCHF <sub>2</sub>	F	CF	t-Bu	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	F	CF
Me	6-Me	H	SCHF <sub>2</sub>	F	CF	Me	6-C1	H	SCHF <sub>2</sub>	F	CF
Et	6-Me	H	SCHF <sub>2</sub>	F	CF	Et	6-Cl	H	SCHF <sub>2</sub>	F	CF
<i>i-</i> Pr	6-Ме	H	SCHF <sub>2</sub>	F	CF	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	F	CF
t-Bu	6-Me	H	SCHF <sub>2</sub>	F	CF	<i>t</i> -Bu	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	F	CF
Me	6-Ме	H	OCF <sub>3</sub>	F	CF	Me	6-C1	H	OCF <sub>3</sub>	F	CF
Et	6-Me	H	OCF <sub>3</sub>	F	CF	Et	6-C1	H	OCF <sub>3</sub>	F	CF
<i>i-</i> Pr	6-Me	H	OCF <sub>3</sub>	$\mathbf{F}$	CF	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	F	CF
t-Bu	6-Me	H	OCF <sub>3</sub>	F	CF	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	F	CF
Me	6-Me	H	SCF <sub>3</sub>	F	CF	Me	6-C1	H	SCF <sub>3</sub>	F	CF

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<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
Et	6-Me	H	SCF <sub>3</sub>	F	CF	Et	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	F	CF
<i>i-</i> Pr	6-Me	H	SCF <sub>3</sub>	F	CF	i-Pr	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	F	CF
t-Bu	6-Me	H	SCF <sub>3</sub>	F	CF	t-Bu	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	F	CF
Me	6-Me	H	$C_2F_5$	F	CF	Me	6-C1	H	$C_2F_5$	F	CF
Et	6-Me	H	$C_2F_5$	F	CF	Et	6-C1	H	$C_2F_5$	F	CF
i-Pr	6-Me	H	$C_2F_5$	F	CF	<i>i-</i> Pr	6-C1	H	$C_2F_5$	F	CF
t-Bu	6-Ме	H	$C_2F_5$	F	CF	<i>t</i> -Bu	6-C1	$\mathbf{H}$	$C_2F_5$	F	CF
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
<i>i-</i> Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	i-Pr	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	t-Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Me	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Et	6-Ме	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF
i-Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	i-Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
t-Bu	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF	<i>t</i> -Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Me	6-Me	H	CN	F	CF	Me	6-C1	H	CN	F	CF
Et	6-Me	H	CN	F	CF	Et	6-C1	H	CN	F	CF
i-Pr	6-Me	H	CN	F	CF	<i>i-</i> Pr	6-Cl	H	CN	F	CF
t-Bu	6-Me	H	CN	F	CF	<i>t-</i> Bu	6-C1	$\mathbf{H}$	CN	F	CF
Me	6-Me	H	OCHF <sub>2</sub>	C1	CCI	Me	6-C1	H	OCHF <sub>2</sub>	C1	CCI
Et	6-Me	H	OCHF <sub>2</sub>	C1	CC1	Et	6-C1	H	OCHF <sub>2</sub>	C1	CCl
<i>i-</i> Pr	6-Me	$\mathbf{H}$	$OCHF_2$	Cl	CCI	i-Pr	6-C1	H	OCHF <sub>2</sub>	Cl	CCI
t-Bu	6-Me	H	OCHF <sub>2</sub>	Cl	CC1	t-Bu	6-C1	H	OCHF <sub>2</sub>	C1	CC1
Me	6-Ме	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CC1	Me	6-C1	H	SCHF <sub>2</sub>	C1	CCI
Et	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CC1	Et	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CCI
<i>i-</i> Pr	6-Me	H	SCHF <sub>2</sub>	Cl	CC1	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	C1	CC1
t-Bu	6-Me	H	SCHF <sub>2</sub>	C1	CCI	t-Bu	6-C1	H	SCHF <sub>2</sub>	Cl	CCI
Me	6-Ме	$\mathbf{H}$	OCF <sub>3</sub>	C1	CCI	Me	6-C1	H	OCF <sub>3</sub>	C1	CC1
Et	6-Me	H	OCF <sub>3</sub>	C1	CC1	Et	6-C1	H	OCF <sub>3</sub>	C1	CC1
<i>i-</i> Pr	6-Ме	H	OCF <sub>3</sub>	Cl	CC1	i-Pr	6-C1	H	OCF <sub>3</sub>	C1	CC1
t-Bu	6-Me	H	OCF <sub>3</sub>	Cl	CCI	t-Bu	6-C1	H	OCF <sub>3</sub>	C1	CCI
Me	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	C1	CCI	Me	6-C1	H	SCF <sub>3</sub>	C1	CC1
Et	6-Me	H	SCF <sub>3</sub>	C1	CCI	Et	6-C1	H	SCF <sub>3</sub>	C1	CC1
<i>i</i> -Pr	6-Me	H	SCF <sub>3</sub>	Cl	CCl	i-Pr	6-C1	H	SCF <sub>3</sub>	C1	CC1
t-Bu	6-Me	H	SCF <sub>3</sub>	Cl	CCI	t-Bu	6-C1	H	SCF <sub>3</sub>	C1	CC1
Me	6-Me	H	$C_2F_5$	C1	CCl	Me	6-C1	H	$C_2F_5$	C1	CC1
Et	6-Me	$\mathbf{H}$	$C_2F_5$	Cl	CCl	Et	6-C1	H	$C_2F_5$	Cl	CC1

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<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R<sup>3</sup></u>	<u>R</u> 4a	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
i-Pr	6-Me	H	$C_2F_5$	C1	CCI	<i>i-</i> Pr	6-C1	H	$C_2F_5$	C1	CCl
t-Bu	6-Me	H	$C_2F_5$	C1	CCI	t-Bu	6-C1	H	$C_2F_5$	C1	CC1
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CC1	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CCl
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CCl	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CCI
i-Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CC1	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	C1	CCl
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CC1	<i>t</i> -Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CC1
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CC1	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CC1
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CCI	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CCl
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CC1	<i>i-</i> Pr	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	C1	CC1
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CC1	t-Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CCI
Me	6-Me	H	CN	C1	CCI	Me	6-C1	H	CN	Cl	CC1
Et	6-Me	H	CN	C1	CC1	Et	6-C1	$\mathbf{H}$	CN	C1	CCl
i-Pr	6-Me	H	CN	Cl	CCI	<i>i-</i> Pr	6-C1	$\mathbf{H}$	CN	Cl	CCl
t-Bu	6-Me	$\mathbf{H}$	CN	C1	CCI	t-Bu	6-C1	H	CN	C1	CC1
Me	3-Me	H	$OCHF_2$	F	CH	Me	3-C1	H	OCHF <sub>2</sub>	F	CH
Et	3-Me	H	OCHF <sub>2</sub>	F	CH	Et	3-C1	H	OCHF <sub>2</sub>	F	CH
i-Pr	3-Me	H	OCHF <sub>2</sub>	F	CH	i-Pr	3-C1	H	OCHF <sub>2</sub>	F	CH
t-Bu	3-Me	H	$OCHF_2$	F	CH	t-Bu	3-C1	H	OCHF <sub>2</sub>	F	CH
Me	3-Me	H	SCHF <sub>2</sub>	F	CH	Me	3-C1	H	SCHF <sub>2</sub>	F	CH
Et	3-Me	H	SCHF <sub>2</sub>	F	CH	Et	3-C1	H	SCHF <sub>2</sub>	F	CH
i-Pr	3-Me	H	SCHF <sub>2</sub>	F	CH	i-Pr	3-C1	H	SCHF <sub>2</sub>	F	CH
t-Bu	3-Me	H	SCHF <sub>2</sub>	F	CH	<i>t</i> -Bu	3-C1	H	SCHF <sub>2</sub>	F	CH
Me	3-Me	H	OCF <sub>3</sub>	F	CH	Me	3-C1	H	OCF <sub>3</sub>	F	CH
Et	3-Me	H	OCF <sub>3</sub>	F	CH	Et	3-C1	H	OCF <sub>3</sub>	F	CH
<i>i</i> -Pr	3-Me	H	OCF <sub>3</sub>	F	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	F	CH
t-Bu	3-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	CH	<i>t</i> -Bu	3-C1	H	OCF <sub>3</sub>	F	CH
Me	3-Me	H	SCF <sub>3</sub>	$\mathbf{F}$	CH	Me	3-C1	H	SCF <sub>3</sub>	F	CH
Et	3-Me	H	SCF <sub>3</sub>	F	CH	Et	3-C1	H	SCF <sub>3</sub>	F	CH
<i>i-</i> Pr	3-Me	H	SCF <sub>3</sub>	F	CH	i-Pr	3-C1	H	SCF <sub>3</sub>	F	CH
t-Bu	3-Me	H	SCF <sub>3</sub>	F	CH	t-Bu	3-C1	H	SCF <sub>3</sub>	F	CH
Me	3-Me	H	$C_2F_5$	F	CH	Me	3-C1	H	$C_2F_5$	F	CH
Et	3-Me	H	$C_2F_5$	F	CH	Et	3-C1	H	$C_2F_5$	F	CH
<i>i-</i> Pr	3-Me	H	$C_2F_5$	F	CH	<i>i</i> -Pr	3-C1	H	$C_2F_5$	<b>F</b>	CH
t-Bu	3-Me	H	$C_2F_5$	F	CH	<i>t-</i> Bu	3-C1	Н	$C_2F_5$	F	CH
Me	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Me	3-C1	Н	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Et	3-C1	Н	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	i-Pr	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH

<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
t-Bu	3-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH	t-Bu	3-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	3-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	3-Ме	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	3-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
<i>i</i> -Pr	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	3-Me	H	CN	F	CH	Me	3-C1	$\mathbf{H}$	CN	F	CH
Et	3-Me	H	CN	F	CH	Et	3-C1	H	CN	F	CH
i-Pr	3-Me	H	CN	F	CH	<i>i-</i> Pr	3-C1	H	CN	F	CH
t-Bu	3-Me	$\mathbf{H}$	CN	F	CH	<i>t</i> -Bu	3-C1	$\mathbf{H}$	CN	F	CH
Me	3-Me	H	$OCHF_2$	C1	CH	Me	3-C1	$\mathbf{H}$	OCHF <sub>2</sub>	C1	CH
Et	3-Me	$\mathbf{H}$	$OCHF_2$	Cl	CH	Et	3-C1	H	OCHF <sub>2</sub>	C1	CH
i-Pr	3-Me	$\mathbf{H}$	OCHF <sub>2</sub>	C1	CH	<i>i-</i> Pr	3-C1	H	OCHF <sub>2</sub>	C1	CH
t-Bu	3-Me	$\mathbf{H}$	OCHF <sub>2</sub>	C1	CH	t-Bu	3-C1	H	$OCHF_2$	C1	CH
Me	3-Me	H	SCHF <sub>2</sub>	C1	CH	Me	3-C1	H	SCHF <sub>2</sub>	C1	CH
Et	3-Me	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CH	Et	3-C1	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CH
<i>i</i> -Pr	3-Me	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	SCHF <sub>2</sub>	Cl	CH
t-Bu	3-Me	H	SCHF <sub>2</sub>	C1	CH	<i>t</i> -Bu	3-C1	H	SCHF <sub>2</sub>	Cl	CH
Me	3-Me	H	OCF <sub>3</sub>	C1	CH	Me	3-C1	H	OCF <sub>3</sub>	C1	CH
Et	3-Me	H	OCF <sub>3</sub>	Cl	CH	Et	3-C1	H	OCF <sub>3</sub>	Cl	CH
<i>i-</i> Pr	3-Me	H	OCF <sub>3</sub>	C1	CH	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	C1	CH
t-Bu	3-Me	H	OCF <sub>3</sub>	C1	CH	<i>t</i> -Bu	3-C1	H	OCF <sub>3</sub>	C1	CH
Me	3-Me	H	SCF <sub>3</sub>	Cl	CH	Me	3-C1	H	SCF <sub>3</sub>	C1	CH
Et	3-Me	H	SCF <sub>3</sub>	C1	CH	Et	3-C1	H	SCF <sub>3</sub>	C1	CH
<i>i</i> -Pr	3-Me	H	SCF <sub>3</sub>	C1	CH	<i>i-</i> Pr	3-C1	H	SCF <sub>3</sub>	Cl	CH
t-Bu	3-Me	H	SCF <sub>3</sub>	C1	CH	<i>t</i> -Bu	3-C1	H	SCF <sub>3</sub>	C1	CH
Me	3-Me	H	$C_2F_5$	Cl	CH	Me	3-C1	H	$C_2F_5$	C1	CH
Et	3-Me	H	$C_2F_5$	C1	CH	Et	3-C1	H	$C_2F_5$	Cl	CH
<i>i-</i> Pr	3-Me	H	$C_2F_5$	C1	CH	<i>i-</i> Pr	3-C1	H	$C_2F_5$	C1	CH
<i>t</i> -Bu	3-Me	H	$C_2F_5$	C1	CH	<i>t-</i> Bu	3-C1	H	$C_2F_5$	Cl	CH
Me	3-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
Et	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
<i>i-</i> Pr	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	<b>C</b> 1	CH	i-Pr	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
t-Bu	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>t-</i> Bu	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
Me	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	Me	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
<i>i</i> -Pr	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	<i>i-</i> Pr	3-C1	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	3-Me	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	t-Bu	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
Me	3-Me	H	CN	Cl	CH	Me	3-C1	H	CN	C1	CH
Et	3-Me	H	CN	C1	CH	Et	3-C1	H	CN	C1	CH
<i>i</i> -Pr	3-Ме	$\mathbf{H}$	CN	C1	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	CN	C1	CH
t-Bu	3-Ме	$\mathbf{H}$	CN	C1	CH	<i>t</i> -Bu	3-C1	H	CN	Cl	CH
Me	3-Ме	$\mathbf{H}$	$OCHF_2$	Br	CH	Me	3-C1	H	$OCHF_2$	Br	CH
Et	3-Ме	$\mathbf{H}$	OCHF <sub>2</sub>	Br	CH	Et	3-C1	H	$OCHF_2$	Br	CH
<i>i</i> -Pr	3-Me	$\mathbf{H}$	$OCHF_2$	Br	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	$OCHF_2$	Br	CH
t-Bu	3-Ме	H	$OCHF_2$	Br	CH	<i>t</i> -Bu	3-C1	$\mathbf{H}$	$OCHF_2$	Br	CH
Me	3-Me	H	SCHF <sub>2</sub>	Br	CH	Me	3-C1	H	SCHF <sub>2</sub>	Br	CH
Et	3-Me	H	SCHF <sub>2</sub>	Br	CH	Et	3-C1	H	SCHF <sub>2</sub>	Br	CH
<i>i</i> -Pr	3-Me	H	SCHF <sub>2</sub>	Br	CH	<i>i-</i> Pr	3-C1	H	SCHF <sub>2</sub>	Br	CH
t-Bu	3-Me	H	SCHF <sub>2</sub>	Br	CH	t-Bu	3-C1	H	SCHF <sub>2</sub>	Br	CH
Me	3-Me	H	OCF <sub>3</sub>	Br	CH	Me	3-C1	Н	OCF <sub>3</sub>	Br	CH
Et	3-Me	H	OCF <sub>3</sub>	Br	CH	Et	3-C1	H	OCF <sub>3</sub>	Br	CH
<i>i</i> -Pr	3-Me	H	OCF <sub>3</sub>	Br	CH	i-Pr	3-C1	H	OCF <sub>3</sub>	Br	CH
<i>t</i> -Bu	3-Me	H	OCF <sub>3</sub>	Br	CH	t-Bu	3-C1	H	OCF <sub>3</sub>	Br	CH
Me	3-Me	$\mathbf{H}$	SCF <sub>3</sub>	Br	CH	Me	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	Br	CH
Et	3-Me	$\mathbf{H}$	SCF <sub>3</sub>	Br	CH	Et	3-C1	H	SCF <sub>3</sub>	Br	CH
<i>i-</i> Pr	3-Ме	$\mathbf{H}$	SCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	Br	CH
t-Bu	3-Me	$\mathbf{H}$	SCF <sub>3</sub>	Br	CH	t-Bu	3-C1	H	SCF <sub>3</sub>	Br	CH
Me	3-Me	$\mathbf{H}$	$C_2F_5$	Br	CH	Me	3-C1	H	$C_2F_5$	Br	CH
Et	3-Me	$\mathbf{H}$	$C_2F_5$	Br	CH	Et	3-C1	Н	$C_2F_5$	Br	CH
i-Pr	3-Me	H	$C_2F_5$	Br	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	$C_2F_5$	Br	CH
t-Bu	3-Me	$\mathbf{H}$	$C_2F_5$	Br	CH	<i>t</i> -Bu	3-C1	$\mathbf{H}$	$C_2F_5$	Br	CH
Me	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i</i> -Pr	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
i-Pr	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t</i> -Bu	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	3-Me	H	CN	Br	CH	Me	3-C1	H	CN	Br	CH
Et	3-Me	H	CN	Br	CH	Et	3-C1	H	CN	Br	CH
<i>i-</i> Pr	3-Me	Н	CN	Br	CH	i-Pr	3-C1	H	CN	Br	CH
t-Bu	3-Me	H	CN	Br	CH	<i>t</i> -Bu	3-C1	H	CN	Br	CH
Me	3-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	3-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
Et	3-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	3-C1	H	$OCHF_2$	CF <sub>3</sub>	CH
<i>i</i> -Pr	3-Me	$\mathbf{H}$	$OCHF_2$	$CF_3$	CH	<i>i-</i> Pr	3-C1	H	$OCHF_2$	CF <sub>3</sub>	$\mathbf{C}\mathbf{H}$
t-Bu	3-Me	$\mathbf{H}$	$OCHF_2$	CF <sub>3</sub>	CH	<i>t</i> -Bu	3-C1	$\mathbf{H}$	$OCHF_2$	$CF_3$	CH
Me	3-Me	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	3-C1	$\mathbf{H}$	SCHF <sub>2</sub>	$CF_3$	CH
Et	3-Me	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	3-C1	H	$SCHF_2$	CF <sub>3</sub>	CH
i-Pr	3-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	i-Pr	3-C1	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	3-Ме	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	3-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	3-Me	$\mathbf{H}$	OCF <sub>3</sub>	$CF_3$	CH	Me	3-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	3-Me	H	OCF <sub>3</sub>	$CF_3$	CH	Et	3-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	i-Pr	3-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	t-Bu	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	3-Me	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	3-Me	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
<i>i</i> -Pr	3-Me	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	3-Me	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	3-Me	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	CH	Me	3-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
Et	3-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	Et	3-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
i-Pr	3-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	<i>i-</i> Pr	3-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
t-Bu	3-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	t-Bu	3-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
Me	3-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	3-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH	Et	3-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH	<i>i</i> -Pr	3-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t-</i> Bu	3-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	3-Me	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	3-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	3-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	3-Me	$\mathbf{H}$	CN	CF <sub>3</sub>	CH	Me	3-C1	$\mathbf{H}$	CN	CF <sub>3</sub>	CH
Et	3-Me	$\mathbf{H}$	CN	CF <sub>3</sub>	CH	Et	3-C1	$\mathbf{H}$	CN	CF <sub>3</sub>	CH
i-Pr	3-Me	H	CN	CF <sub>3</sub>	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	CN	CF <sub>3</sub>	CH
t-Bu	3-Me	Н	CN	CF <sub>3</sub>	CH	<i>t-</i> Bu	3-C1	H	CN	CF <sub>3</sub>	CH

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Table 7

$$\mathbb{R}^{4b}$$
 $\mathbb{R}^{4a}$ 
 $\mathbb{N}_{\mathbb{R}^3}$ 
 $\mathbb{R}^7$ 
 $\mathbb{R}^7$ 

R<sup>4a</sup> R4b  $R^{4a}$   $R^{4b}$ <u>R</u>6 <u>R</u>6  $R^{4b}$  $R^{4a}$ <u>R</u>7  $\mathbb{R}^3$ <u>R</u>7 <u>R</u>3  $\mathbb{R}^7$  $\mathbb{R}^3$ <u>R</u>6 C1 $\mathbf{F}$ CF<sub>3</sub> Me Cl Cl  $\mathbf{F}$ F CF<sub>3</sub> Me CH<sub>3</sub> CF<sub>3</sub> Me C1 Br C1CH<sub>3</sub>  $\mathbf{F}$ CF<sub>3</sub> Et C1C1  $\mathbf{F}$ CF<sub>3</sub> Et Cl Br  $\mathbf{F}$ CF<sub>3</sub> Et CF<sub>3</sub> C1F i-Pr Cl C1 F CF<sub>3</sub> i-Pr Cl Br  $\mathbf{F}$ CF<sub>3</sub> *i-*Pr CH<sub>3</sub> Cl CH<sub>3</sub> F CF<sub>3</sub> t-Bu C1 F CF<sub>3</sub> t-Bu F CF<sub>3</sub> t-Bu C1 C1 BrCF<sub>3</sub> F C1CF<sub>3</sub> Me  $\mathbf{F}$ Me Br  $CH_3$ CF<sub>3</sub> Me Br F Br BrCF<sub>3</sub> Et F CF<sub>3</sub> Cl CF<sub>3</sub> Et  $\mathbf{F}$ Br CH<sub>3</sub> Et Br F Br Br CF<sub>3</sub>  $CH_3$ F CF<sub>3</sub> i-Pr BrCl F CF<sub>3</sub> i-Pr Br BrF i-Pr Br CF<sub>3</sub> t-Bu CH<sub>3</sub> F CF<sub>3</sub> t-Bu C1 F Br Br $\mathbf{F}$ CF<sub>3</sub> t-Bu Br Br F C1 CI $CH_3$ F C1 Me Cl C1 C1 Me Cl Br F Me Cl  $\mathbf{F}$ C1 Et C1C1 Cl Et Cl  $\mathbf{F}$ C1 Et CH<sub>3</sub> F Br F C1i-Pr F i-Pr Cl *i-*Pr Cl  $CH_3$ Cl C1Cl Cl Br F  $CH_3$  $\mathbf{F}$ Cl t-Bu Cl C1 F C1 t-Bu C1 Br F C1 t-Bu Cl CH<sub>3</sub>  $\mathbf{F}$ C1 Me Br Cl F Cl Me Br Br  $\mathbf{F}$ C1 Me Br Cl F C1 Et  $CH_3$  $\mathbf{F}$ Cl Et BrC1 F Et Br $\mathbf{Br}$ Br Cl CH<sub>3</sub> F C1 i-Pr Br Cl F C1 *i*-Pr Br Br F i-Pr Br F t-Bu C1 F C1 t-Bu Br  $\mathbf{F}$ Cl *t-*Bu Br CH<sub>3</sub> C1Br BrBr C1  $\mathbf{F}$ Me Cl Cl F Br Me C1F Me CH<sub>3</sub> BrBr F Et Cl Cl F Br Et C1 Br  $\mathbf{F}$ Br Et C1 CH<sub>3</sub>  $\mathbf{Br}$ Cl F C1  $\mathbf{F}$  $\mathbf{Br}$ *i-*Pr CH<sub>3</sub> i-Pr C1 F Br *i*-Pr Cl Br Br Cl F t-Bu Cl  $\mathbf{F}$ Br *t-*Bu C1 CH<sub>3</sub> F Br t-Bu Cl BrBr F  $\mathbf{Br}$ Me Br CH<sub>3</sub> F Me Cl F Br Me Br Br Br Br Et Cl F F BrBr F Et Br Br Et Br Br  $CH_3$ Br F Br i-Pr F i-Pr Br C1 F Br *i-*Pr Br Br Br CH<sub>3</sub> Br Cl F F Br *t-*Bu Br CH<sub>3</sub> Br t-Bu Br F Br t-Bu Br Br CF<sub>3</sub> CF<sub>3</sub> Me C1 Cl Cl C1 Me CH<sub>3</sub> Cl CF<sub>3</sub> Me C1 Cl Br C1 Cl C1 CF<sub>3</sub> Et C1  $CH_3$ C1 CF<sub>3</sub> Et Cl CF<sub>3</sub> Et Cl Br

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R4b  $R^{4a}$ R4b  $R^{4a}$ R4b R<sup>4a</sup>  $\mathbb{R}^7$  $\mathbb{R}^3$ <u>R</u>6  $\mathbb{R}^7$  $\mathbb{R}^3$ <u>R</u>6 <u>R</u>7  $\mathbb{R}^3$ <u>R</u>6 Cl CF<sub>3</sub> CH<sub>3</sub> i-Pr Cl C1 Cl CF3 i-Pr Cl Br Cl CF<sub>3</sub> i-Pr C1 Cl CH<sub>3</sub> CF<sub>3</sub> t-Bu Cl Cl C1 CF<sub>3</sub> t-Bu Cl BrC1 CF<sub>3</sub> t-Bu C1 CH<sub>3</sub> CI CF<sub>3</sub> Me Br CI Cl CF<sub>3</sub> Me Br Br Cl CF<sub>3</sub> Me Br CH<sub>3</sub> Cl CF<sub>3</sub> Et Br Cl Cl CF<sub>3</sub> Et Br BrCl CF<sub>3</sub> Et Br CH<sub>3</sub> Cl CF<sub>3</sub> i-Pr Br Cl Cl CF<sub>3</sub> i-Pr BrBrCl CF<sub>3</sub> i-Pr Br C1CF<sub>3</sub> t-Bu Cl Cl CF<sub>3</sub> t-Bu Br Cl CF<sub>3</sub> t-Bu Br CH<sub>3</sub> Br Br Cl Cl Cl Cl C1 Cl C1C1 Cl C1CH<sub>3</sub> Me Me Br Me Cl C1 C1 C1 Cl Et Cl Cl Cl Et C1 CH<sub>3</sub> Et C1 Br CH<sub>3</sub> C1Cl Cl Cl i-Pr Cl Cl Cl i-Pr Cl Cl i-Pr Cl Br C1 Cl C1 t-Bu C1 Cl CH<sub>3</sub> Cl t-Bu C1 C1 Br Cl t-Bu Cl CH<sub>3</sub> C1 Cl Me Br CI C1 C1 Me Br Br Cl C1 Me Br Cl C1 Cl C1 Cl C1 Cl Et Et Br Εt Br CH<sub>3</sub> Br Br CH<sub>3</sub> Cl Cl i-Pr Br C1 C1 Cl i-Pr Br Br C1 C1 *i*-Pr Br C1 Cl C1 t-Bu Cl Cl t-Bu CH<sub>3</sub> Cl t-Bu Br Cl Br BrBr CH<sub>3</sub> Cl Br Me C1 Cl C1 Br Me Cl Br C1Br Me C1 CH<sub>3</sub> BrCl C1 Cl Br Et C1 Cl C1 Br Et C1 Br Et CH<sub>3</sub> Cl Br i-Pr Cl C1 Cl Br i-Pr Cl BrC1 Br*i*-Pr Cl C1 C1 Cl t-Bu Cl t-Bu CI  $CH_3$ Br t-Bu Cl Br C1 Br Br CH<sub>3</sub> C1 Cl C1 Cl Br Me Br Br Me Br Br  $\mathbf{Br}$ Me Br Cl Cl C1 C1 Et Et CH<sub>3</sub> Br Et Br Br Br Br Br Br CH<sub>3</sub> Cl Cl Bri-Pr Br Cl Cl Br *i-*Pr Br Br Br i-Pr Br Cl Br C1 Cl Brt-Bu BrC1 Br t-Bu Br $\mathbf{Br}$ t-Bu Br CH<sub>3</sub> CH<sub>3</sub> BrCF<sub>3</sub> Me Cl C1 Br CF<sub>3</sub> Me C1 Br Вr CF<sub>3</sub> Me C1 Br CF<sub>3</sub> Et C1 Cl BrCF<sub>3</sub> Et C1 Br Br CF<sub>3</sub> Et Cl CH<sub>3</sub> CF<sub>3</sub> i-Pr i-Pr Cl CH<sub>3</sub> Br CF<sub>3</sub> i-Pr Cl Cl Br Cl Br Br CF<sub>3</sub> CH<sub>3</sub> CF<sub>3</sub> Cl Brt-Bu Cl C1 Br CF<sub>3</sub> t-Bu C1 Br Br CF<sub>3</sub> t-Bu CH<sub>3</sub> BrCF<sub>3</sub> Me Br Cl Br CF<sub>3</sub> Me Br Br Br CF<sub>3</sub> Me Br BrCF<sub>3</sub> C1 CF<sub>3</sub> Et Br CF<sub>3</sub> CH<sub>3</sub> Et Br Br Br Br Et Br BrCF<sub>3</sub> i-Pr CH<sub>3</sub> Br CF<sub>3</sub> i-Pr C1 Br Br Br BrCF<sub>3</sub> i-Pr Br t-Bu CH<sub>3</sub> BrCF<sub>3</sub> t-Bu Br C1BrCF<sub>3</sub> t-Bu BrBr BrCF<sub>3</sub> Br CH<sub>3</sub>  $\mathbf{Br}$ Cl Me Cl C1 Br Cl Me C1 BrBr C1Me Cl CH<sub>3</sub> BrC1 Et Cl C1 Br Cl Et C1Br BrCl Et C1 Cl Cl i-Pr Cl Cl *i-*Pr Cl CH<sub>3</sub> Br i-Pr Cl C1 BrBrBr C1Br C1 t-Bu C1C1 Br C1 t-Bu Br $\mathbf{Br}$ C1 t-Bu C1 CH<sub>3</sub> Cl C1 Cl Br  $\mathbf{Br}$ Cl Me Br CH<sub>3</sub> Br Me Br Η CF<sub>3</sub> Me C1 Br Cl C1 Br C1Et Br Et Br CH3 Br Εt Η CF<sub>3</sub>  $CH_3$ C1Cl Cl Br Br Cl *i*-Pr Br Br i-Pr Br Η CF<sub>3</sub> i-Pr

R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 7	<u>R<sup>3</sup></u>	<u>R</u> 6	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 7	<u>R<sup>3</sup></u>	<u>R</u> 6	R4a	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6
CH <sub>3</sub>	Br	Cl	<i>t</i> -Bu	Br	Cl	H	CF <sub>3</sub>	<i>t</i> -Bu	Cl	Br	Br	<u></u>	<i>t</i> -Bu	Br
CH <sub>3</sub>	Br	Br	Me	Cl	C1	Н	CF <sub>3</sub>	Me	Br	Br	Br	Br	Me	Cl
CH <sub>3</sub>	Br	Br	Et	C1	CI	Н	CF <sub>3</sub>	Et	Br	Br	Br	Br	Et	Cl
CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	C1	C1	$\mathbf{H}$	CF <sub>3</sub>	<i>i</i> -Pr	Br	Br	Br	Br	<i>i</i> -Pr	Cl
CH <sub>3</sub>	Br	Br	t-Bu	Cl	C1	H	CF <sub>3</sub>	<i>t</i> -Bu	Br	Br	Br	Br	t-Bu	C1
CH <sub>3</sub>	Br	Br	Me	Br	C1	H	C1	Me	Cl	Br	Br	Br	Me	Br
CH <sub>3</sub>	Br	Br	Et	Br	C1	H	C1	Et	Cl	Br	Br	Br	Et	Br
CH <sub>3</sub>	Br	Br	i-Pr	Br	C1	H	C1	i-Pr	C1	Br	Br	Br	i-Pr	Br
CH <sub>3</sub>	Br	Br	t-Bu	Br	Cl	H	C1	t-Bu	C1	Br	Br	Br	t-Bu	Br
CH <sub>3</sub>	1	CF <sub>3</sub>	Me	Cl	C1	H	Cl	Me	Br	Br	I	CF <sub>3</sub>	Me	C1
CH <sub>3</sub>	I	CF <sub>3</sub>	Et	C1	C1	H	Cl	Et	Br	Br	Ι	CF <sub>3</sub>	Et	C1
CH <sub>3</sub>	Ι	CF <sub>3</sub>	<i>i-</i> Pr	C1	C1	H	C1	i-Pr	Br	Br	I	CF <sub>3</sub>	i-Pr	C1
CH <sub>3</sub>	I	CF <sub>3</sub>	t-Bu	Cl	C1	H	C1	t-Bu	Br	Br	I	CF <sub>3</sub>	t-Bu	C1
CH <sub>3</sub>	Ι	CF <sub>3</sub>	Me	Br	C1	H	Br	Me	C1	Br	1	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	I	CF <sub>3</sub>	Et	Br	C1	H	Br	Et	Cl	Br	Ι	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	I	CF <sub>3</sub>	i-Pr	Br	C1	H	Br	i-Pr	Cl	Br	I	CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	Ι	CF <sub>3</sub>	t-Bu	Br	Cl	H	Br	t-Bu	Cl	Br	I	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	I	Cl	Me	Cl	Cl	H	Br	Me	Br	Br	Ι	Cl	Me	C1
CH <sub>3</sub>	I	C1	Et	Cl	C1	H	Br	Et	Br	Br	I	Cl	Et	Cl
CH <sub>3</sub>	Ι	C1	<i>i-</i> Pr	C1	C1	H	Br	i-Pr	Br	Br	Ι	C1	<i>i-</i> Pr	C1
CH <sub>3</sub>	I	Cl	t-Bu	C1	C1	H	Br	t-Bu	Br	Br	Ι	C1	t-Bu	C1
CH <sub>3</sub>	I	Cl	Me	Br	Cl	Br	C1	Me	Br	Br	1	C1	Me	Br
CH <sub>3</sub>	1	Cl	Et	Br	C1	Br	C1	Et	Br	Br	Ι	Cl	Et	Br
CH <sub>3</sub>	I	Cl	<i>i-</i> Pr	Br	C1	Br	C1	i-Pr	Br	Br	Ι	Cl	<i>i-</i> Pr	Br
CH <sub>3</sub>	Ι	Cl	t-Bu	Br	C1	Br	Cl	t-Bu	Br	Br	Ι	C1	<i>t</i> -Bu	Br
CH <sub>3</sub>	Ι	Br	Me	C1	C1	Br	Br	Me	C1	Br	1	Br	Me	Cl
CH <sub>3</sub>	Ι	Br	Et	Cl	C1	Br	Br	Et	Cl	Br	1	Br	Et	C1
CH <sub>3</sub>	I	Br	<i>i-</i> Pr	Cl	C1	Bŗ.	Br	<i>i-</i> Pr	Cl	Br	I	Br	<i>i</i> -Pr	C1
CH <sub>3</sub>	Ι	Br	<i>t</i> -Bu	Cl	C1	Br	Br	t-Bu	Cl	Br	Ι	Br	t-Bu	C1
CH <sub>3</sub>	Ι	Br	Me	Br	Cl	Br	Br	Me	Br	Br	I	Br	Me	Br
CH <sub>3</sub>	Ι	Br	Et	Br	C1	Br	Br	Et	Br	Br	I	Br	Et	Br _
CH <sub>3</sub>	Ι	Br	<i>i</i> -Pr	Br	Cl	Br	Br	<i>i-</i> Pr	Br	Br	I	Br	<i>i-</i> Pr	Br -
CH <sub>3</sub>	Ι	Br	t-Bu	Br	Cl	Br	Br	t-Bu	Br	Br _	I	Br	t-Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Me	C1	Cl	I			C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	Me	C1
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Et	Cl	C1	I	CF <sub>3</sub>	Et	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	Et	C1
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	Cl	Cl	I	_	<i>i-</i> Pr	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	<i>i</i> -Pr	Cl
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	<i>t</i> -Bu	C1	C1	Ι	CF <sub>3</sub>	t-Bu	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	C1

<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6
CH <sub>3</sub>	$CF_3$	CF <sub>3</sub>	Me	Br	C1	I	$CF_3$	Me	Br	Br	$CF_3$	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br	Cl	I	$CF_3$	Et	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	$CF_3$	$CF_3$	i-Pr	Br	C1	Ι	CF <sub>3</sub>	<i>i-</i> Pr	Br	Br	$CF_3$	CF <sub>3</sub>	<i>i-</i> Pr	Br
$CH_3$	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br	Cl	Ι	$CF_3$	t-Bu	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br
$CH_3$	CF <sub>3</sub>	C1	Me	Cl	Cl	Ι	C1	Me	Cl	Br	CF <sub>3</sub>	Cl	Me	Cl
$CH_3$	$CF_3$	C1	Et	C1	C1	1	C1	Et	Cl	Br	CF <sub>3</sub>	C1	Et	Cl
$CH_3$	$CF_3$	Cl	i-Pr	Cl	Cl	Ι	C1	<i>i-</i> Pr	Cl	Br	CF <sub>3</sub>	C1	<i>i-</i> Pr	C1
$CH_3$	CF <sub>3</sub>	C1	t-Bu	Cl	Cl	I	C1	t-Bu	Cl	Br	CF <sub>3</sub>	C1	t-Bu	Cl
CH <sub>3</sub>	$CF_3$	C1	Me	Br	C1	I	C1	Me	Br	Br	$CF_3$	CI	Me	Br
$CH_3$	CF <sub>3</sub>	<b>C</b> 1	Et	Br	Cl	Ι	Cl	Et	Br	Br	CF <sub>3</sub>	Cl	Et	Br
CH <sub>3</sub>	$CF_3$	C1	i-Pr	Br	Cl	I	Cl	i-Pr	Br	Br	CF <sub>3</sub>	C1	<i>i-</i> Pr	Br
CH <sub>3</sub>	CF <sub>3</sub>	C1	t-Bu	Br	Cl	I	C1	t-Bu	Br	Br	CF <sub>3</sub>	Cl	t-Bu	Br
$CH_3$	CF <sub>3</sub>	Br	Me	Cl	Cl	I	Br	Me	Cl	Br	CF <sub>3</sub>	Br	Me	Cl
$CH_3$	CF <sub>3</sub>	Br	Et	CI	Cl	Ι	Br	Et	Cl	Br	CF <sub>3</sub>	Br	Et	Cl
CH <sub>3</sub>	$CF_3$	Br	<i>i-</i> Pr	C1	Cl	Ι	Br	i-Pr	Cl	Br	$CF_3$	Br	<i>i-</i> Pr	Cl
CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	Cl	C1	I	Br	t-Bu	Cl	Br	CF <sub>3</sub>	Br	t-Bu	C1
CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	Br	Cl	I	Br	Me	Br	Br	CF <sub>3</sub>	Br	Me	Br
CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	Br	Cl	I	Br	Et	Br	Br	CF <sub>3</sub>	Br	Et	Br
CH <sub>3</sub>	CF <sub>3</sub>	Br	i-Pr	Br	C1	Ι	Br	i-Pr	Br	Br	$CF_3$	Br	i-Pr	Br
$CH_3$	CF <sub>3</sub>	Br	t-Bu	Br	Cl	I	Br	t-Bu	Br	Br	CF <sub>3</sub>	Br	t-Bu	Br
CH <sub>3</sub>	C1	Cl	n-Pr	Cl	Cl	CF <sub>3</sub>	$CF_3$	Me	C1	Ι	Cl	CF <sub>3</sub>	Me	Cl
CH <sub>3</sub>	C1	C1	n-Bu	Cl	C1	$CF_3$	$CF_3$	Et	Cl	I	Cl	CF <sub>3</sub>	Et	CI
$CH_3$	C1	Cl	s-Bu	Cl	C1	$CF_3$	$CF_3$	i-Pr	Cl	I	Cl	CF <sub>3</sub>	i-Pr	Cl
CH <sub>3</sub>	C1	C1	<i>i-</i> Bu	Cl	C1	$CF_3$	$CF_3$	t-Bu	C1	I	Cl	$CF_3$	t-Bu	Cl
CH <sub>3</sub>	$\mathbf{H}$	CF <sub>3</sub>	Me	Cl	C1	$CF_3$	CF <sub>3</sub>	Me	Br	I	C1	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	H	CF <sub>3</sub>	Et	Cl	C1	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br	Ι	C1	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	H	CF <sub>3</sub>	i-Pr	Cl	Cl	CF <sub>3</sub>	$CF_3$	i-Pr	Br	Ι	C1	CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	H	CF <sub>3</sub>	t-Bu	C1	<b>C</b> 1	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br	Ι	C1	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	$\mathbf{H}$	CF <sub>3</sub>	Me	Br	C1	CF <sub>3</sub>	C1	Me	C1	I	Cl	C1	Me	C1
CH <sub>3</sub>	$\mathbf{H}$	CF <sub>3</sub>	Et	Br	C1	CF <sub>3</sub>	C1	Et	C1	I	C1	C1	Et	C1
CH <sub>3</sub>	$\mathbf{H}$	CF <sub>3</sub>	<i>i-</i> Pr	Br	C1	CF <sub>3</sub>	C1	i-Pr	C1	I	C1	C1	<i>i-</i> Pr	C1
CH <sub>3</sub>	H	CF <sub>3</sub>	t-Bu	Br	C1	CF <sub>3</sub>	C1	t-Bu	C1	I	C1	C1	t-Bu	C1
CH <sub>3</sub>	$\mathbf{H}$	Cl	Me	Cl	C1	CF <sub>3</sub>	C1	Me	Br	1	<b>C</b> 1	C1	Me	Br
CH <sub>3</sub>	$\mathbf{H}$	Cl	Et	C1	C1	CF <sub>3</sub>	C1	Et	Br	Ι	C1	Cl	Et	Br
CH <sub>3</sub>	H	Cl	<i>i-</i> Pr	Cl	Cl	CF <sub>3</sub>	C1	i-Pr	Br	I	C1	Cl	i-Pr	Br
CH <sub>3</sub>	H	CI	t-Bu	C1	C1	CF <sub>3</sub>	C1	t-Bu	Br	Ι	C1	Cl	t-Bu	Br
CH <sub>3</sub>	H	Cl	Me	Br	C1	CF <sub>3</sub>	Br	Me	Cl	I	Cl	Br	Me	C1

Table 8

<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
Me	3-Me	H	CF <sub>3</sub>	F	Ме	3-C1	H	CF <sub>3</sub>	F
Et	3-Me	5-Me	OCF <sub>3</sub>	F	Et	3-C1	5-Me	OCF <sub>3</sub>	F
<i>i-</i> Pr	3-Ме	н .	OCF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	F
t-Bu	3-Me	5-C1	Br	F	<i>t</i> -Bu	3-C1	5-C1	Br	F
Me	3-Me	H	Br	F	Me	3-C1	H	Br	F
Et	3-Me	H	C1	F	Et	3-C1	н	C1	$\mathbf{F}$
<i>i</i> -Pr	3-Ме	5-Br	C1	F	<i>i-</i> Pr	3-C1	5-Br	C1	F
t-Bu	3-Ме	H	I	F	<i>t</i> -Bu	3-C1	$\mathbf{H}$	I	F
propargyl	3-Me	H	CF <sub>3</sub>	F	propargyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	F
c-propyl	3-Me	H	OCF <sub>3</sub>	F	c-propyl	3-C1	н	OCF <sub>3</sub>	F
<i>i-</i> Pr	3-Me	5-C1	CF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	F
t-Bu	3-Me	H	SCF <sub>3</sub>	F	t-Bu	3-C1	Н	SCF <sub>3</sub>	F
Me	3-Me	5-C1	SCHF2	F	Me	3-C1	5-C1	SCHF2	F

<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6
Et	3-Ме	H	OCHF <sub>2</sub>	F	Et	3-C1	$\mathbf{H}$	OCHF <sub>2</sub>	F
i-Pr	3-Ме	H	CF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	$\mathbf{H}$	CF <sub>3</sub>	F
<i>t-</i> Bu	3-Ме	H	$C_2F_5$	F	<i>t</i> -Bu	3-C1	$\mathbf{H}$	$C_2F_5$	F
propargyl	3-Me	H	$C_2F_5$	F	propargyl	3-C1	$\mathbf{H}$	$C_2F_5$	F
c-propyl	3-Me	H	CF <sub>3</sub>	F	c-propyl	3-C1	H	CF <sub>3</sub>	F
<i>i-</i> Pr	3-Me	$\mathbf{H}$	Me	F	<i>i-</i> Pr	3-C1	$\mathbf{H}$	Me	F
<i>t</i> -Bu	3-Ме	5-Br	CN	F	<i>t</i> -Bu	3-C1	5-Br	CN	F
Me	3-Me	$\mathbf{H}$	CF <sub>3</sub>	C1	Me	3-C1	H	CF <sub>3</sub>	C1
Et	3-Me	5-Me	OCF <sub>3</sub>	C1	Et	3-C1	5-Me	OCF <sub>3</sub>	C1
i-Pr	3-Me	H	OCF <sub>3</sub>	C1	<i>i-</i> Pr	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	Cl
<i>t</i> -Bu	3-Me	5-C1	Br	C1	<i>t</i> -Bu	3-C1	5-C1	Br	C1
Me	3-Me	$\mathbf{H}$	Br	C1	Me	3-C1	H	Br	C1
Et	3-Me	H	Cl	C1	Et	3-C1	H	C1	C1
i-Pr	3-Me	5-Br	C1	C1	i-Pr	3-C1	5-Br	Cl	Cl
t-Bu	3-Ме	H	I	C1	<i>t</i> -Bu	3-C1	H	I	Cl
propargyl	3-Ме	Н	CF <sub>3</sub>	C1	propargyl	3-C1	H	CF <sub>3</sub>	Cl
c-propyl	3-Me	$\mathbf{H}$	OCF <sub>3</sub>	C1	c-propyl	3-C1	H	OCF <sub>3</sub>	C1
i-Pr	3-Me	5-C1	CF <sub>3</sub>	C1	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	Cl
t-Bu	3-Ме	H	SCF <sub>3</sub>	Cl	t-Bu	3-C1	H	SCF <sub>3</sub>	C1
Me	3-Me	5-C1	SCHF <sub>2</sub>	Cl	Me	3-C1	5-C1	SCHF <sub>2</sub>	C1
Et	3-Ме	H	$OCHF_2$	Cl	Et	3-C1	H	OCHF <sub>2</sub>	Cl
i-Pr	3-Ме	H	CF <sub>3</sub>	Cl	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	Cl
t-Bu	3-Me	H	$C_2F_5$	C1	<i>t</i> -Bu	3-C1	H	$C_2F_5$	Cl
propargyl	3-Ме	Н	$C_2F_5$	Cl	propargyl	3-C1	H	$C_2F_5$	C1
c-propyl	3-Ме	H	CF <sub>3</sub>	C1	c-propyl	3-C1	H	CF <sub>3</sub>	C1
<i>i-</i> Pr	3-Me	H	Me	C1	<i>i-</i> Pr	3-C1	Н	Me	C1
t-Bu	3-Me	5-Br	CN	C1	<i>t-</i> Bu	3-C1	5-Br	CN	C1
Me	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	Ме	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
Et	3-Me	5-Me	OCF <sub>3</sub>	CF <sub>3</sub>	Et	3-C1	5-Me	OCF <sub>3</sub>	CF <sub>3</sub>
i-Pr	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Ме	5-C1	Br	CF <sub>3</sub>	t-Bu	3-C1	5-C1	Br	CF <sub>3</sub>
Me	3-Ме	H	Br	CF <sub>3</sub>	Me	3-C1	H	Br	CF <sub>3</sub>
Et	3-Me	H	Cl	CF <sub>3</sub>	Et	3-C1	H	Cl	CF <sub>3</sub>
<i>i-</i> Pr	3-Ме	5-Br	C1	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-Br	CI -	CF <sub>3</sub>
t-Bu	3-Ме	H	I	CF <sub>3</sub>	<i>t-</i> Bu	3-C1	H	Ι	CF <sub>3</sub>
propargyl	3-Ме	H	CF <sub>3</sub>	CF <sub>3</sub>	propargyl	3-C1	Н	CF <sub>3</sub>	CF <sub>3</sub>
c-propyl	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	c-propyl	3-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>

				,	O .				
<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
<i>i-</i> Pr	3-Me	5-C1	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Ме	Н	SCF <sub>3</sub>	CF <sub>3</sub>	t-Bu	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
Me	3-Me	5-C1	SCHF <sub>2</sub>	CF <sub>3</sub>	Me	3-C1	5-C1	SCHF <sub>2</sub>	CF <sub>3</sub>
Et	3-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	3-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
i-Pr	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Me	H	$C_2F_5$	CF <sub>3</sub>	<i>t</i> -Bu	3-C1	H	$C_2F_5$	CF <sub>3</sub>
propargyl	3-Me	Н	$C_2F_5$	CF <sub>3</sub>	propargyl	3-C1	H	$C_2F_5$	CF <sub>3</sub>
c-propyl	3-Ме	Н	CF <sub>3</sub>	CF <sub>3</sub>	c-propyl	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	3-Ме	H	Me	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	H	Me	CF <sub>3</sub>
t-Bu	3-Ме	5-Br	CN	CF <sub>3</sub>	<i>t</i> -Bu	3-C1	5-Br	CN	CF <sub>3</sub>
Me	3-Me	$\mathbf{H}$	CF <sub>3</sub>	Br	Ме	3-C1	H	CF <sub>3</sub>	Br
Et	3-Ме	5-Me	OCF <sub>3</sub>	Br	Et	3-C1	5-Me	OCF <sub>3</sub>	Br
<i>i-</i> Pr	3-Me	H	OCF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	Br
t-Bu	3-Me	5-C1	Br	Br	<i>t</i> -Bu	3-C1	5-C1	Br	Br
Me	3-Me	H	Br	Br	Ме	3-C1	H	Br	Br
Et	3-Me	H	C1	Br	Et	3-C1	H	C1	Br
i-Pr	3-Me	5-Br	Cl	Br	<i>i-</i> Pr	3-C1	5-Br	C1	Br
t-Bu	3-Ме	H	I	Br	<i>t-</i> Bu	3-C1	H	I	Br
propargyl	3-Ме	H	CF <sub>3</sub>	Br	propargyl	3-C1	H	CF <sub>3</sub>	Br
c-propyl	3-Me	H	OCF <sub>3</sub>	Br	c-propyl	3-C1	H	OCF <sub>3</sub>	Br
i-Pr	3-Me	5-C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	Br
t-Bu	3-Me	H	SCF <sub>3</sub>	Br	t-Bu	3-C1	H	SCF <sub>3</sub>	Br
Me	3-Me	5-C1	SCHF <sub>2</sub>	Br	Me	3-C1	5-C1	SCHF <sub>2</sub>	Br
Et	3-Me	H	OCHF <sub>2</sub>	Br	Et	3-C1	H	OCHF <sub>2</sub>	Br
<i>i-</i> Pr	3-Me	H	CF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	Br
t-Bu	3-Me	H	$C_2F_5$	Br	<i>t-</i> Bu	3-Cl	H	$C_2F_5$	Br
propargyl	3-Me	H	$C_2F_5$	Br	propargyl	3-C1	H	$C_2F_5$	Br
c-propyl	3-Me	H	CF <sub>3</sub>	Br	c-propyl	3-C1	H	CF <sub>3</sub>	Br
<i>i-</i> Pr	3-Me	H	Me	Br	<i>i-</i> Pr	3-C1	H	Me	Br
t-Bu	3-Me	5-Br	CN	Br	t-Bu	3-C1	5-Br	CN	Br
Me	6-Me	H	OCHF <sub>2</sub>	F	Me	6-C1	H	OCHF <sub>2</sub>	F
Et	6-Me	H	OCHF <sub>2</sub>	F	Et	6-C1	H	OCHF <sub>2</sub>	F
<i>i-</i> Pr	6-Ме	H	OCHF <sub>2</sub>	F	<i>i-</i> Pr	6-Cl	H	OCHF <sub>2</sub>	F
t-Bu	6-Ме	H	OCHF <sub>2</sub>	F	<i>t</i> -Bu	6-Cl	H	OCHF <sub>2</sub>	F
Me	6-Ме	H	SCHF <sub>2</sub>	F	Me	6-Cl	Н	SCHF <sub>2</sub>	F
Et	6-Me	H	SCHF <sub>2</sub>	F	Et	6-Cl	Н	SCHF <sub>2</sub>	F
<i>i-</i> Pr	6-Ме	Н	SCHF <sub>2</sub>	F	<i>i-</i> Pr	6-Cl	Н	SCHF <sub>2</sub>	F

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$R^{4b}$	$\mathbb{R}^7$	<u>R</u> 6				
t-Bu	6-Ме	Н	SCHF <sub>2</sub>	F	<i>t-</i> Bu	6-C1	Н	schf <sub>2</sub>	F				
Me	6-Me	H	OCF <sub>3</sub>	F	Me	6-C1	H	OCF <sub>3</sub>	F				
Et	6-Ме	H	OCF <sub>3</sub>	F	Et	6-C1	H	OCF <sub>3</sub>	F				
i-Pr	6-Ме	H	OCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	Н	OCF <sub>3</sub>	F				
t-Bu	6-Ме	Н	OCF <sub>3</sub>	F	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	F				
Me	6-Ме	H	SCF <sub>3</sub>	F	Ме	6-C1	H	SCF <sub>3</sub>	F				
Et	6-Ме	Н	SCF <sub>3</sub>	F	Et	6-C1	H	SCF <sub>3</sub>	F				
<i>i-</i> Pr	6-Ме	H	SCF <sub>3</sub>	F	i-Pr	6-C1	Н	SCF <sub>3</sub>	F				
t-Bu	6-Me	H	SCF <sub>3</sub>	F	<i>t-</i> Bu	6-C1	H	SCF <sub>3</sub>	F				
Me	6-Me	H	$C_2F_5$	F	Ме	6-C1	H	$C_2F_5$	F				
Et	6-Me	$\mathbf{H}$	$C_2F_5$	F	Et	6-C1	H	$C_2F_5$	F				
<i>i-</i> Pr	6-Me	Н	$C_2F_5$	F	<i>i-</i> Pr	6-C1	H	$C_2F_5$	F				
t-Bu	6-Me	H	$C_2F_5$	F	<i>t</i> -Bu	6-C1	Н	$C_2F_5$	F				
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	Ме	6-C1	Н	n-C <sub>3</sub> F <sub>7</sub>	F				
Et	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F				
i-Pr	6-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F				
t-Bu	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F				
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F				
Et	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	Et	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F				
i-Pr	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F	i-Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F				
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F				
Me	6-Me	H	CN	F	Me	6-C1	H	CN	F				
Et	6-Ме	H	CN	F	Et	6-C1	H	CN	F				
<i>i-</i> Pr	6-Me	H	CN	F	<i>i-</i> Pr	6-C1	H	CN	F				
t-Bu	6-Me	H	CN	F	<i>t</i> -Bu	6-C1	H	CN	F				
Me	6-Ме	H	OCHF <sub>2</sub>	Cl	Ме	6-C1	H	OCHF <sub>2</sub>	C1				
Et	6-Ме	H	OCHF <sub>2</sub>	C1	Et	6-C1	H	OCHF <sub>2</sub>	Cl				
i-Pr	6-Me	H	OCHF <sub>2</sub>	C1	i-Pr	6-C1	H	OCHF <sub>2</sub>	C1				
t-Bu	6-Me	H	OCHF <sub>2</sub>	Cl	<i>t</i> -Bu	6-C1	H	$OCHF_2$	Cl				
Me	6-Ме	H	SCHF <sub>2</sub>	<b>C</b> 1	Me	6-C1	H	SCHF <sub>2</sub>	Cl				
Et	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	C1	Et	6-C1	H	SCHF <sub>2</sub>	Cl				
i-Pr	6-Ме	Ή	SCHF <sub>2</sub>	C1	i-Pr	6-C1	H	SCHF <sub>2</sub>	Cl				
t-Bu	6-Ме	H	SCHF <sub>2</sub>	C1	<i>t-</i> Bu	6-Cl	H	SCHF <sub>2</sub>	Cl				
Me	6-Ме	$\mathbf{H}$	OCF <sub>3</sub>	<b>C</b> 1	Ме	6-C1	H	OCF <sub>3</sub>	Cl				
Et	6-Ме	$\mathbf{H}$	OCF <sub>3</sub>	C1	Et	6-C1	H	OCF <sub>3</sub>	Cl				
<i>i-</i> Pr	6-Ме	H	OCF <sub>3</sub>	<b>C</b> 1	<i>i-</i> Pr	6-C1	Н	OCF <sub>3</sub>	Cl				
t-Bu	6-Ме	Н	OCF <sub>3</sub>	C1	<i>t-</i> Bu	6-C1	H	OCF <sub>3</sub>	Cl				

$\mathbb{R}^3$	<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6
Me	6-Ме	H	SCF <sub>3</sub>	Cl	Me	6-C1	H	SCF <sub>3</sub>	Cl
Et	6-Ме	H	SCF <sub>3</sub>	C1	Et	6-C1	Н	SCF <sub>3</sub>	C1
<i>i</i> -Pr	6-Ме	H	SCF <sub>3</sub>	C1	<i>i-</i> Pr	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	Cl
t-Bu	6-Ме	H	SCF <sub>3</sub>	C1	t-Bu	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	C1
Me	6-Ме	H	$C_2F_5$	C1	Me	6-C1	Н	$C_2F_5$	C1
Et	6-Ме	H	$C_2F_5$	C1	Et	6-C1	H	$C_2F_5$	Cl
<i>i</i> -Pr	6-Ме	H	$C_2F_5$	C1	<i>i-</i> Pr	6-C1	H	$C_2F_5$	C1
t-Bu	6-Ме	H	$C_2F_5$	C1	<i>t-</i> Bu	6-C1	H	$C_2F_5$	Cl
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	Me	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl
i-Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Cl
t-Bu	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	<i>t</i> -Bu	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Cl
Me	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	Ме	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	Н	i-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	<i>i-</i> Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Cl
t-Bu	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl
Me	6-Me	H	CN	C1	Me	6-C1	$\mathbf{H}$	CN	C1
Et	6-Me	H	CN	C1	Et	6-C1	H	CN	Cl
i-Pr	6-Ме	H	CN	Cl	<i>i-</i> Pr	6-C1	H	CN	Cl
t-Bu	6-Me	H	CN	C1	<i>t</i> -Bu	6-C1	H	CN	Cl
Me	6-Me	H	$OCHF_2$	Br	Me	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	Br
Et	6-Ме	H	$OCHF_2$	Br	Et	6-C1	H	$OCHF_2$	Br
<i>i</i> -Pr	6-Me	H	$OCHF_2$	Br	<i>i-</i> Pr	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	Br
t-Bu	6-Me	H	OCHF <sub>2</sub>	Br	<i>t</i> -Bu	6-C1	H	$OCHF_2$	Br
Me	6-Ме	H	SCHF <sub>2</sub>	Br	Me	6-C1	H	SCHF <sub>2</sub>	Br
Et	6-Me	H	SCHF <sub>2</sub>	Br	Et	6-C1	H	SCHF <sub>2</sub>	Br
i-Pr	6-Me	H	SCHF <sub>2</sub>	Br	i-Pr	6-C1	H	SCHF <sub>2</sub>	Br
t-Bu	6-Ме	H	SCHF <sub>2</sub>	Br	t-Bu	6-C1	H	SCHF <sub>2</sub>	Br
Me	6-Ме	H	OCF <sub>3</sub>	Br	Me	6-C1	H	OCF <sub>3</sub>	Br
Et	6-Ме	H	OCF <sub>3</sub>	Br	Et	6-C1	H	OCF <sub>3</sub>	Br
i-Pr	6-Ме	H	OCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	Br
t-Bu	6-Ме	H	OCF <sub>3</sub>	Br	t-Bu	6-C1	H	OCF <sub>3</sub>	Br
Me	6-Ме	H	SCF <sub>3</sub>	Br	Me	6-C1	H	SCF <sub>3</sub>	Br
Et	6-Ме	H	SCF <sub>3</sub>	Br	Et	6-C1	H	SCF <sub>3</sub>	Br
i-Pr	6-Ме	H	SCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	Br
t-Bu	6-Ме	H	SCF <sub>3</sub>	Br	<i>t-</i> Bu	6-C1	H	SCF <sub>3</sub>	Br
Me	6-Ме	$\mathbf{H}$	$C_2F_5$	Br	Me	6-C1	H	$C_2F_5$	Br

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
Et	6-Me	H	$C_2F_5$	Br	Et	6-C1	H	$C_2F_5$	Br
<i>i-</i> Pr	6-Me	H	$C_2F_5$	Br	<i>i-</i> Pr	6-C1	H	$C_2F_5$	Br
t-Bu	6-Me	H	$C_2F_5$	Br	<i>t</i> -Bu	6-C1	H	$C_2F_5$	Br
Me	6-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
<i>i-</i> Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	$\mathbf{Br}$
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	i-Pr	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>t-</i> Bu	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	H	CN	Br	Me	6-C1	H	CN	Br
Et	6-Me	H	CN	Br	Et	6-C1	H	CN	Br
<i>i-</i> Pr	6-Me	H	CN	Br	<i>i-</i> Pr	6-C1	$\mathbf{H}$	CN	Br
t-Bu	6-Me	H	CN	Br	<i>t</i> -Bu	6-C1	H	CN	Br
Me	6-Me	$\mathbf{H}$	OCHF <sub>2</sub>	CF <sub>3</sub>	Me	6-C1	$\mathbf{H}$	$OCHF_2$	CF <sub>3</sub>
Et	6-Me	$\mathbf{H}$	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	$\mathbf{H}$	$OCHF_2$	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	Me	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>
i-Pr	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Ме	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	t-Bu	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
<i>i</i> -Pr	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	t-Bu	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	H	$C_2F_5$	CF <sub>3</sub>	Me	6-C1	н	$C_2F_5$	CF <sub>3</sub>
Et	6-Me	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	Et	6-C1	H	$C_2F_5$	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Ме	H	$C_2F_5$	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	H	$C_2F_5$	CF <sub>3</sub>
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	Н	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>

<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
i-Pr	6-Ме	Н	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-Cl	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-Cl	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Ме	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	H	CN	CF <sub>3</sub>	Me	6-C1	H	CN	CF <sub>3</sub>
Et	6-Me	H	CN	CF <sub>3</sub>	Et	6-C1	$\mathbf{H}$	CN	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	$\mathbf{H}$	CN	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	CN	CF <sub>3</sub>
t-Bu	6-Me	$\mathbf{H}$	CN	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	CN	CF <sub>3</sub>
Me	6-Ме	Cl	OCHF <sub>2</sub>	F	Me	6-C1	C1	$OCHF_2$	F
Et	6-Ме	C1	OCHF <sub>2</sub>	F	Et	6-C1	Cl	OCHF <sub>2</sub>	F
i-Pr	6-Me	C1	OCHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	F
t-Bu	6-Me	C1	OCHF <sub>2</sub>	F	t-Bu	6-C1	Cl	OCHF <sub>2</sub>	F
Me	6-Ме	C1	SCHF <sub>2</sub>	F	Me	6-C1	Cl	SCHF <sub>2</sub>	F
Et	6-Me	C1	SCHF <sub>2</sub>	F	Et	6-C1	Cl	SCHF <sub>2</sub>	F
<i>i-</i> Pr	6-Ме	CI	SCHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	Cl	$SCHF_2$	F
t-Bu	6-Ме	C1	SCHF <sub>2</sub>	F	<i>t</i> -Bu	6-C1	C1	SCHF <sub>2</sub>	F
Me	6-Me	C1	ocf <sub>3</sub>	F	Me	6-C1	C1	OCF <sub>3</sub>	F
Et	6-Ме	C1	OCF <sub>3</sub>	F	Et	6-C1	C1	OCF <sub>3</sub>	F
<i>i-</i> Pr	6-Ме	C1	OCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	F
t-Bu	6-Ме	C1	OCF <sub>3</sub>	F	<i>t</i> -Bu	6-Cl	Cl	OCF <sub>3</sub>	F
Me	6-Me	C1	SCF <sub>3</sub>	F	Me	6-C1	C1	SCF <sub>3</sub>	F
Et	6-Me	C1	SCF <sub>3</sub>	F	Et	6-C1	Cl	SCF <sub>3</sub>	F
<i>i-</i> Pr	6-Me	Cl	SCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	F
t-Bu	6-Ме	C1	SCF <sub>3</sub>	F	t-Bu	6-C1	C1	SCF <sub>3</sub>	F
Me	6-Me	Cl	$C_2F_5$	F	Me	6-C1	C1	$C_2F_5$	F
Et	6-Me	C1	$C_2F_5$	F	Et	6-Cl	Cl	$C_2F_5$	F
i-Pr	6-Me	Cl	$C_2F_5$	F	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	F
t-Bu	6-Ме	C1	$C_2F_5$	F	<i>t</i> -Bu	6-C1	Cl	$C_2F_5$	F
Me	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F
i-Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
Et	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
<i>i-</i> Pr	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	F

<u>R</u> 3	<u>R4a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
t-Bu	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	CI	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	Cl	CN	F	Ме	6-C1	Cl	CN	F
Et	6-Me	Cl	CN	F	Et	6-C1	Cl	CN	F
<i>i-</i> Pr	6-Me	C1	CN	F	<i>i-</i> Pr	6-C1	Cl	CN	F
t-Bu	6-Ме	Cl	CN	F	<i>t</i> -Bu	6-C1	C1	CN	F
Me	6-Ме	Cl	OCHF <sub>2</sub>	C1	Me	6-C1	C1	OCHF <sub>2</sub>	C1
Et	6-Ме	Cl	$OCHF_2$	Cl	Et	6-C1	C1	OCHF <sub>2</sub>	C1
<i>i-</i> Pr	6-Me	C1	OCHF <sub>2</sub>	C1	<i>i-</i> Pr	6-C1	Cl	$OCHF_2$	Cl
t-Bu	6-Ме	Cl	OCHF <sub>2</sub>	Cl	<i>t-</i> Bu	6-C1	Cl	$OCHF_2$	C1
Me	6-Me	C1	SCHF <sub>2</sub>	Cl	Ме	6-C1	C1	SCHF <sub>2</sub>	C1
Et	6-Ме	C1	SCHF <sub>2</sub>	Cl	Et	6-C1	Cl	SCHF <sub>2</sub>	C1
<i>i</i> -Pr	6-Me	C1	SCHF <sub>2</sub>	C1	i-Pr	6-C1	C1	SCHF <sub>2</sub>	Cl
t-Bu	6-Me	Cl	SCHF <sub>2</sub>	Cl	t-Bu	6-C1	Cl	SCHF <sub>2</sub>	Cl
Me	6-Me	C1	OCF <sub>3</sub>	Cl	Me	6-C1	C1	OCF <sub>3</sub>	C1
Et	6-Me	Cl	OCF <sub>3</sub>	C1	Et	6-Cl	Cl	OCF <sub>3</sub>	C1
i-Pr	6-Me	C1	OCF <sub>3</sub>	Cl	<i>i-</i> Pr	6-C1	Cl	OCF <sub>3</sub>	Cl
t-Bu	6-Me	C1	OCF <sub>3</sub>	C1	<i>t</i> -Bu	6-Cl	C1	OCF <sub>3</sub>	C1
Me	6-Me	C1	SCF <sub>3</sub>	C1	Ме	6-C1	Cl	SCF <sub>3</sub>	C1
Et	6-Me	C1	SCF <sub>3</sub>	C1	Et	6-C1	C1	SCF <sub>3</sub>	Cl
<i>i-</i> Pr	6-Me	C1	SCF <sub>3</sub>	Cl	i-Pr	6-C1	C1	SCF <sub>3</sub>	Cl
t-Bu	6-Me	C1	SCF <sub>3</sub>	Cl	t-Bu	6-C1	C1	SCF <sub>3</sub>	C1
Me	6-Me	C1	$C_2F_5$	C1	Ме	6-C1	C1	$C_2F_5$	Cl
Et	6-Me	C1	$C_2F_5$	C1	Et	6-C1	C1	$C_2F_5$	C1
<i>i-</i> Pr	6-Me	C1	$C_2F_5$	C1	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	Cl
t-Bu	6-Me	C1	$C_2F_5$	C1	t-Bu	6-C1	C1	$C_2F_5$	Cl
Me	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl
Et	.6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl
<i>i-</i> Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	<i>t-</i> Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	C1
<i>i-</i> Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	<i>t-</i> Bu	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Me	C1	CN	C1	Ме	6-C1	C1	CN	C1
Et	6-Me	C1	CN	C1	Et	6-C1	Cl	CN	C1
<i>i-</i> Pr	6-Me	C1	CN	C1	<i>i-</i> Pr	6-C1	C1	CN	C1
t-Bu	6-Me	C1	CN	C1	<i>t-</i> Bu	6-C1	Cl	CN	C1

<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R</u> 7	<u>R6</u>
Me	6-Ме	Cl	OCHF <sub>2</sub>	Br	Ме	6-C1	C1	OCHF <sub>2</sub>	Br
Et	6-Me	Cl	OCHF <sub>2</sub>	Br	Et	6-C1	C1	OCHF <sub>2</sub>	Br
i-Pr	6-Me	Cl	OCHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	Br
t-Bu	6-Ме	C1	OCHF <sub>2</sub>	Br	<i>t</i> -Bu	6-C1	C1	OCHF <sub>2</sub>	Br
Me	6-Me	C1	SCHF <sub>2</sub>	Br	Me	6-C1	C1	SCHF <sub>2</sub>	Br
Et	6-Ме	C1	schf <sub>2</sub>	Br	Et	6-C1	C1	SCHF <sub>2</sub>	Br
i-Pr	6-Me	C1	SCHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	C1	SCHF <sub>2</sub>	Br
t-Bu	6-Ме	Cl	SCHF <sub>2</sub>	Br	<i>t-</i> Bu	6-C1	C1	$SCHF_2$	Br
Me	6-Me	Cl	OCF <sub>3</sub>	Br	Me	6-C1	C1	OCF <sub>3</sub>	Br
Et	6-Me	Cl	OCF <sub>3</sub>	Br	Et	6-C1	C1	OCF <sub>3</sub>	Br
i-Pr	6-Me	C1	OCF <sub>3</sub>	Br	i-Pr	6-C1	C1	OCF <sub>3</sub>	Br
t-Bu	6-Ме	Cl	OCF <sub>3</sub>	Br	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	Br
Me	6-Ме	Cl	SCF <sub>3</sub>	Br	Me	6-C1	C1	SCF <sub>3</sub>	Br
Et	6-Me	C1	SCF <sub>3</sub>	Br	Et	6-C1	C1	SCF <sub>3</sub>	Br
i-Pr	6-Me	C1	SCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	Br
t-Bu	6-Me	Cl	SCF <sub>3</sub>	Br	t-Bu	6-C1	C1	SCF <sub>3</sub>	Br
Me	6-Me	C1	$C_2F_5$	Br	Me	6-C1	C1	$C_2F_5$	Br
Et	6-Me	Cl	$C_2F_5$	Br	Et	6-C1	C1	$C_2F_5$	Br
<i>i</i> -Pr	6-Me	Cl	$C_2F_5$	Br	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	Br
t-Bu	6-Me	C1	$C_2F_5$	Br	t-Bu	6-C1	C1	$C_2F_5$	Br
Me	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
i-Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
i-Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Ме	Cl	CN	Br	Me	6-C1	Cl	CN	Br
Et	6-Me	C1	CN	Br	Et	6-C1	Cl	CN	Br
i-Pr	6-Me	C1	CN	Br	i-Pr	6-C1	C1	CN	Br
t-Bu	6-Me	CI	CN	Br	t-Bu	6-C1	C1	CN	Br
Me	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	Me	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Ме	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
i-Pr	6-Ме	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	i-Pr	6-C1	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	t-Bu	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Ме	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	Me	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>

<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
Et	6-Ме	Cl	schf <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	C1	schf <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	$SCHF_2$	CF <sub>3</sub>
t-Bu	6-Ме	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	C1	$SCHF_2$	CF <sub>3</sub>
Me	6-Ме	C1	OCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Ме	C1	OCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>
<i>i</i> -Pr	6-Ме	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>
<i>t</i> -Bu	6-Me	CI	OCF <sub>3</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	Cl	OCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>
i-Pr	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	Me	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
Et	6-Ме	Cl	$C_2F_5$	CF <sub>3</sub>	Et	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	t-Bu	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
Me	6-Ме	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	$CF_3$	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
i-Pr	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Ме	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
i-Pr	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	$CF_3$	<i>t-</i> Bu	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	C1	CN	CF <sub>3</sub>	Me	6-C1	C1	CN	CF <sub>3</sub>
Et	6-Me	C1	CN	CF <sub>3</sub>	Et	6-C1	Cl	CN	CF <sub>3</sub>
i-Pr	6-Ме	C1	CN	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	CN	CF <sub>3</sub>
t-Bu	6-Me	C1	CN	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	C1	CN	CF <sub>3</sub>

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## Table 9

$$R^{4b}$$
  $R^{7}$   $R^{7}$   $R^{6}$   $R^{6}$   $R^{4a}$   $R^{6}$   $R^{6}$   $R^{6}$   $R^{7}$ 

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{X}}$	<u>R</u> 3	<u>R<sup>4a</sup></u>	$R^{4b}$	$\underline{\mathbf{R}^7}$	<u>R</u> 6	$\underline{\mathbf{X}}$
Me	6-Me	H	OCHF <sub>2</sub>	$\mathbf{F}$	CH	Me	6-C1	H	OCHF <sub>2</sub>	F	CH
Et	6-Me	H	OCHF <sub>2</sub>	F	CH	Et	6-C1	H	$OCHF_2$	F	CH
<i>i-</i> Pr	6-Me	H	OCHF <sub>2</sub>	F	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	$OCHF_2$	F	CH
t-Bu	6-Me	H	OCHF <sub>2</sub>	F	CH	t-Bu	6-C1	H	$OCHF_2$	F	CH
Me	6-Me	H	SCHF <sub>2</sub>	F	CH	Me	6-C1	H	SCHF <sub>2</sub>	F	CH
Et	6-Me	H	SCHF <sub>2</sub>	$\mathbf{F}$	CH	Et	6-Cl	H	SCHF <sub>2</sub>	F	CH
i-Pr	6-Me	H	SCHF <sub>2</sub>	$\mathbf{F}$	CH	i-Pr	6-Cl	$\mathbf{H}$	SCHF <sub>2</sub>	F	CH
t-Bu	6-Ме	H	SCHF <sub>2</sub>	$\mathbf{F}$	СН	<i>t</i> -Bu	6-C1	H	SCHF <sub>2</sub>	F	CH
Me	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	CH	Me	6-C1	H	OCF <sub>3</sub>	F	CH
Et	6-Me	H	OCF <sub>3</sub>	F	CH	Et	6-C1	H	OCF <sub>3</sub>	F	CH
i-Pr	6-Me	H	OCF <sub>3</sub>	F	CH	i-Pr	6-C1	H	OCF <sub>3</sub>	F	CH
t-Bu	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	СН	t-Bu	6-C1	H	OCF <sub>3</sub>	F	CH
Me	6-Me	H	SCF <sub>3</sub>	F	CH	Me	6-C1	H	SCF <sub>3</sub>	F	CH
Et	6-Me	H	SCF <sub>3</sub>	F	CH	Et	6-C1	H	SCF <sub>3</sub>	F	CH
i-Pr	6-Me	H	SCF <sub>3</sub>	$\mathbf{F}$	СН	i-Pr	6-C1	H	SCF <sub>3</sub>	F	CH
t-Bu	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	F	CH	<i>t-</i> Bu	6-C1	H	SCF <sub>3</sub>	F	CH
Me	6-Me	H	$C_2F_5$	F	СН	Me	6-C1	H	$C_2F_5$	F	CH
Et	6-Me	H	$C_2F_5$	F	CH	Et	6-C1	H	$C_2F_5$	F	CH
i-Pr	6-Me	H	$C_2F_5$	F	CH	i-Pr	6-C1	$\mathbf{H}$	$C_2F_5$	F	CH
t-Bu	6-Me	H	$C_2F_5$	F	CH	t-Bu	6-C1	H	$C_2F_5$	F	CH
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
<i>i-</i> Pr	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t-</i> Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH

<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
i-Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	СН	i-Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	СН	t-Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	CH
Me	6-Me	H	CN	F	СН	Me	6-C1	H	CN	$\mathbf{F}$	CH
Et	6-Me	H	CN	F	CH	Et	6-C1	H	CN	F	CH
i-Pr	6-Me	H	CN	F	CH	i-Pr	6-Cl	H	CN	F	CH
t-Bu	6-Me	H	CN	F	CH	t-Bu	6-C1	H	CN	F	CH
Me	6-Me	H	OCHF <sub>2</sub>	C1	CH	Me	6-C1	H	OCHF <sub>2</sub>	C1	CH
Et	6-Me	H	OCHF <sub>2</sub>	Cl	CH	Et	6-C1	H	OCHF <sub>2</sub>	C1	CH
i-Pr	6-Me	$\mathbf{H}$	OCHF <sub>2</sub>	Cl	CH	i-Pr	6-C1	$\mathbf{H}$	$OCHF_2$	Cl	CH
t-Bu	6-Me	H	OCHF <sub>2</sub>	C1	CH	t-Bu	6-C1	H	OCHF <sub>2</sub>	C1	CH
Me	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	Cl	CH	Me	6-C1	H	SCHF <sub>2</sub>	C1	CH
Et	6-Me	H	SCHF <sub>2</sub>	C1	CH	Et	6-C1	H	SCHF <sub>2</sub>	C1	CH
i-Pr	6-Me	H	SCHF <sub>2</sub>	C1	CH	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	C1	CH
t-Bu	6-Me	H	SCHF <sub>2</sub>	Cl	CH	<i>t</i> -Bu	6-Cl	H	SCHF <sub>2</sub>	C1	CH
Me	6-Me	H	OCF <sub>3</sub>	C1	CH	Me	6-C1	H	OCF <sub>3</sub>	C1	CH
Et	6-Me	H	OCF <sub>3</sub>	C1	CH	Et	6-C1	H	OCF <sub>3</sub>	C1	CH
i-Pr	6-Me	H	OCF <sub>3</sub>	C1	CH	i-Pr	6-C1	H	OCF <sub>3</sub>	C1	CH
t-Bu	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	C1	CH	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	C1	CH
Me	6-Me	H	SCF <sub>3</sub>	C1	CH	Me	6-C1	H	SCF <sub>3</sub>	C1	CH
Et	6-Me	H	SCF <sub>3</sub>	C1	CH	Et	6-C1	H	SCF <sub>3</sub>	C1	CH
i-Pr	6-Me	H	SCF <sub>3</sub>	C1	CH	i-Pr	6-C1	H	SCF <sub>3</sub>	C1	CH
t-Bu	6-Me	H	SCF <sub>3</sub>	Cl	CH	<i>t-</i> Bu	6-C1	H	SCF <sub>3</sub>	C1	CH
Me	6-Me	H	$C_2F_5$	C1	CH	Me	6-C1	H	$C_2F_5$	Cl	CH
Et	6-Me	$\mathbf{H}$	$C_2F_5$	Cl	CH	Et	6-C1	H	$C_2F_5$	C1	CH
<i>i-</i> Pr	6-Me	H	$C_2F_5$	Cl	CH	<i>i-</i> Pr	6-C1	H	$C_2F_5$	Cl	CH
t-Bu	6-Me	H	$C_2F_5$	C1	CH	<i>t-</i> Bu	6-C1	H	$C_2F_5$	C1	CH
Me	6-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
<i>i</i> -Pr	6-Me	Η .	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	t-Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Me	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	Н	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
i-Pr	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	<i>t</i> -Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH
Me	6-Me	H	CN	<b>C</b> 1	CH	Ме	6-Cl	H	CN	Cl	CH
Et	6-Me	H	CN	C1	CH	Et	6-C1	н	CN	Cl	CH
<i>i-</i> Pr	6-Me	H	CN	Cl	CH	<i>i</i> -Pr	6-C1	H	CN	C1	CH

$\underline{\mathbb{R}^3}$	<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 7	<u>R</u> 6	<u>X</u>	<u>R</u> 3	$R^{4a}$	$R^{4b}$	<u>R</u> 7	<u>R</u> 6	<u>X</u>
t-Bu	6-Me	н	CN	C1	CH	t-Bu	6-C1	$\mathbf{H}$	CN	Cl	CH
Me	6-Ме	$\mathbf{H}$	OCHF <sub>2</sub>	Br	СН	Me	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	Br	CH
Et	6-Me	H	OCHF <sub>2</sub>	Br	CH	Et	6-C1	H	OCHF <sub>2</sub>	Br	CH
<i>i</i> -Pr	6-Ме	H	OCHF <sub>2</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	Br	CH
t-Bu	6-Ме	$\mathbf{H}$	OCHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	6-C1	H	OCHF <sub>2</sub>	Br	CH
Me	6-Me	H	SCHF <sub>2</sub>	Br	CH	Me	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	Br	CH
Et	6-Me	H	SCHF <sub>2</sub>	Br	CH	Et	6-C1	H	SCHF <sub>2</sub>	Br	CH
i-Pr	6-Me	H	SCHF <sub>2</sub>	Br	CH	<i>i</i> -Pr	6-C1	H	SCHF <sub>2</sub>	Br	CH
t-Bu	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	Br	CH	<i>t-</i> Bu	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	Br	CH
Me	6-Me	H	OCF <sub>3</sub>	Br	CH	Me	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	Br	CH
Et	6-Me	H	OCF <sub>3</sub>	Br	CH	Et	6-C1	H	OCF <sub>3</sub>	Br	CH
i-Pr	6-Me	H	OCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	Br	CH
t-Bu	6-Me	H	OCF <sub>3</sub>	Br	CH	t-Bu	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	Br	CH
Me	6-Me	H	SCF <sub>3</sub>	Br	CH	Me	6-C1	H	SCF <sub>3</sub>	Br	CH
Et	6-Me	H	SCF <sub>3</sub>	Br	CH	Et	6-C1	H	SCF <sub>3</sub>	Br	CH
<i>i-</i> Pr	6-Me	H	SCF <sub>3</sub>	Br	CH	i-Pr	6-C1	H	SCF <sub>3</sub>	Br	CH
t-Bu	6-Me	H	SCF <sub>3</sub>	Br	CH	t-Bu	6-C1	H	SCF <sub>3</sub>	Br	CH
Me	6-Me	H	$C_2F_5$	Br	CH	Ме	6-C1	Н	$C_2F_5$	Br	CH
Et	6-Me	H	$C_2F_5$	Br	CH	Et	6-C1	H	$C_2F_5$	Br	CH
i-Pr	6-Me	H	$C_2F_5$	Br	CH	i-Pr	6-C1	H	$C_2F_5$	Br	CH
t-Bu	6-Me	H	$C_2F_5$	Br	CH	t-Bu	6-C1	H	$C_2F_5$	Br	CH
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
i-Pr	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	i-Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t</i> -Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	H	CN	Br	CH	Me	6-C1	H	CN	Br	CH
Et	6-Ме	$\mathbf{H}$	CN	Br	CH	Et	6-C1	H	CN	Br	CH
<i>i-</i> Pr	6-Ме	H	CN	Br	CH	i-Pr	6-C1	H	CN	Br	CH
t-Bu	6-Ме	H	CN	Br	CH	<i>t-</i> Bu	6-C1	H	CN	Br	CH
Me	6-Me	$\mathbf{H}$	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	Н	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>t-</i> Bu	6-C1	н	OCHF <sub>2</sub>	CF <sub>3</sub>	CH

$\underline{R^3}$	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{x}}$	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
Me	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	СН	Me	6-C1	н	SCHF <sub>2</sub>	CF <sub>3</sub>	СН
Et	6-Ме	$\mathbf{H}$	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	Н	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Ме	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	Н	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	$\mathbf{H}$	$SCHF_2$	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Ме	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	Н	SCF <sub>3</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	$CF_3$	CH	<i>i-</i> Pr	6-C1	Н	SCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	SCF <sub>3</sub>	$CF_3$	CH	t-Bu	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	Me	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
Et	6-Me	H	$C_2F_5$	$CF_3$	CH	Et	6-C1	Н	$C_2F_5$	CF <sub>3</sub>	CH
i-Pr	6-Ме	H	$C_2F_5$	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	CH
t-Bu	6-Me	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i</i> -Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	CN	CF <sub>3</sub>	CH	Me	6-C1	H	CN	CF <sub>3</sub>	CH
Et	6-Ме	H	CN	CF <sub>3</sub>	CH	Et	6-C1	H	CN	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	H	CN	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	Н	CN	CF <sub>3</sub>	CH
t-Bu	6-Me	H	CN	CF <sub>3</sub>	CH	t-Bu	6-C1	H	CN	CF <sub>3</sub>	CH
Me	6-Me	C1	OCHF <sub>2</sub>	F	CH	Me	6-C1	Cl	OCHF <sub>2</sub>	F	CH
Et	6-Ме	Cl	OCHF <sub>2</sub>	F	CH	Et	6-C1	Cl	OCHF <sub>2</sub>	F	CH
<i>i-</i> Pr	6-Ме	Cl	OCHF <sub>2</sub>	F	CH	i-Pr	6-C1	Cl	OCHF <sub>2</sub>	F	CH
t-Bu	6-Me	Cl	OCHF <sub>2</sub>	F	CH	t-Bu	6-C1	C1	OCHF <sub>2</sub>	F	CH
Me	6-Ме	C1	SCHF <sub>2</sub>	F	CH	Me	6-C1	C1	schf <sub>2</sub>	F	CH
Et	6-Me	C1	SCHF <sub>2</sub>	F	CH	Et	6-C1	C1	SCHF <sub>2</sub>	F	CH
<i>i-</i> Pr	6-Me	C1	SCHF <sub>2</sub>	F	CH	<i>i-</i> Pr	6-C1	Cl	SCHF <sub>2</sub>	F	CH
t-Bu	6-Me	Cl	SCHF <sub>2</sub>	F	CH	t-Bu	6-C1	C1	SCHF <sub>2</sub>	F	CH
Me	6-Ме	Cl	OCF <sub>3</sub>	F	CH	Me	6-C1	Cl	OCF <sub>3</sub>	F	CH

<u>R</u> 3	<u>R<sup>4a</sup></u>	$\underline{R^{4b}}$	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	X
Et	6-Me	Cl	OCF <sub>3</sub>	F	CH	Et	6-C1	C1	OCF <sub>3</sub>	F	CH
i-Pr	6-Me	Cl	OCF <sub>3</sub>	F	CH	i-Pr	6-C1	Cl	OCF <sub>3</sub>	F	CH
t-Bu	6-Me	Cl	OCF <sub>3</sub>	$\mathbf{F}$	CH	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	F	CH
Me	6-Me	Cl	SCF <sub>3</sub>	F	$\mathbf{C}\mathbf{H}$	Me	6-C1	C1	SCF <sub>3</sub>	F	CH
Et	6-Me	Cl	SCF <sub>3</sub>	F	CH	Et	6-C1	Cl	SCF <sub>3</sub>	F	CH
<i>i-</i> Pr	6-Ме	C1	SCF <sub>3</sub>	F	CH	i-Pr	6-C1	C1	SCF <sub>3</sub>	F	CH
t-Bu	6-Ме	Cl	SCF <sub>3</sub>	F	CH	<i>t</i> -Bu	6-Cl	Cl	SCF <sub>3</sub>	F	CH
Me	6-Me	CI	$C_2F_5$	F	CH	Me	6-C1	Cl	$C_2F_5$	F	CH
Et	6-Me	C1	$C_2F_5$	F	CH	Et	6-C1	C1	$C_2F_5$	F	CH
<i>i-</i> Pr	6-Me	Cl	$C_2F_5$	F	CH	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	F	CH
t-Bu	6-Me	C1	$C_2F_5$	F	CH	<i>t</i> -Bu	6-C1	C1	$C_2F_5$	F	CH
Me	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	CH	Ме	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH
<i>i-</i> Pr	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i</i> -Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	i-Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	C1	CN	F	CH	Me	6-C1	Cl	CN	F	CH
Et	6-Ме	Cl	CN	F	CH	Et	6-C1	Cl	CN	F	CH
<i>i-</i> Pr	6-Ме	C1	CN	F	CH	<i>i-</i> Pr	6-C1	Cl	CN	F	CH
t-Bu	6-Me	Cl	CN	F	CH	<i>t</i> -Bu	6-C1	Cl	CN	F	CH
Me	6-Me	Cl	OCHF <sub>2</sub>	C1	CH	Me	6-C1	Cl	OCHF <sub>2</sub>	C1	CH
Et	6-Me	C1	OCHF <sub>2</sub>	Cl	CH	Et	6-C1	C1	OCHF <sub>2</sub>	C1	CH
<i>i-</i> Pr	6-Me	C1	OCHF <sub>2</sub>	C1	CH	<i>i-</i> Pr	6-Cl	Cl	OCHF <sub>2</sub>	C1	CH
t-Bu	6-Me	C1	OCHF <sub>2</sub>	C1	CH	<i>t-</i> Bu	6-Cl	Cl	OCHF <sub>2</sub>	C1	CH
Me	6-Me	C1	SCHF <sub>2</sub>	Cl	CH	Me	6-C1	C1	SCHF <sub>2</sub>	C1	CH
Et	6-Me	C1	SCHF <sub>2</sub>	Cl	CH	Et	6-C1	C1	SCHF <sub>2</sub>	C1	CH
<i>i-</i> Pr	6-Me	Cl	SCHF <sub>2</sub>	Cl	CH	<i>i-</i> Pr	6-C1	Cl	SCHF <sub>2</sub>	C1	CH
t-Bu	6-Me	C1	SCHF <sub>2</sub>	CI	CH	<i>t</i> -Bu	6-C1	C1	SCHF <sub>2</sub>	C1	CH
Me	6-Me	Cl	OCF <sub>3</sub>	C1	CH	Me	6-C1	C1	OCF <sub>3</sub>	C1	CH
Et	6-Me	C1	OCF <sub>3</sub>	C1	CH	Et	6-C1	C1	OCF <sub>3</sub>	C1	CH
<i>i-</i> Pr	6-Me	Cl	OCF <sub>3</sub>	C1	CH	<i>i-</i> ∙Pr	6-Cl	C1	OCF <sub>3</sub>	CI	CH
t-Bu	6-Me	Cl	OCF <sub>3</sub>	C1	CH	t-Bu	6-Cl	Cl	OCF <sub>3</sub>	Cl	CH
Me	6-Me	Cl	SCF <sub>3</sub>	C1	CH	Me	6-C1	Cl	SCF <sub>3</sub>	C1	CH
Et	6-Me	C1	SCF <sub>3</sub>	C1	CH	Et	6-C1	C1	SCF <sub>3</sub>	C1	CH

$\underline{\mathbb{R}^3}$	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
i-Pr	6-Me	C1	SCF <sub>3</sub>	Cl	CH	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	Cl	CH
t-Bu	6-Me	Cl	SCF <sub>3</sub>	Cl	CH	<i>t</i> -Bu	6-C1	Cl	SCF <sub>3</sub>	C1	CH
Me	6-Ме	Cl	$C_2F_5$	C1	CH	Me	6-C1	C1	$C_2F_5$	C1	CH
Et	6-Me	Cl	$C_2F_5$	C1	CH	Et	6-C1	Cl	$C_2F_5$	C1	CH
<i>i</i> -Pr	6-Me	C1	$C_2F_5$	C1	CH	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	C1	CH
t-Bu	6-Me	C1	$C_2F_5$	Cl	CH	<i>t</i> -Bu	6-C1	C1	$C_2F_5$	Cl	CH
Me	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
i-Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	i-Pr	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	. <b>C</b> l	CH
t-Bu	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>t-</i> Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
i-Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>i-</i> Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	<i>t</i> -Bu	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH
Me	6-Me	C1	CN	C1	CH	Me	6-C1	C1	CN	Cl	CH
Et	6-Me	Cl	CN	C1	CH	Et	6-C1	Cl	CN	Cl	CH
i-Pr	6-Me	C1	CN	C1	CH	<i>i-</i> Pr	6-C1	Cl	CN	C1	CH
t-Bu	6-Me	C1	CN	C1	CH	t-Bu	6-C1	Cl	CN	C1	CH
Me	6-Me	C1	OCHF <sub>2</sub>	Br	CH	Me	6-C1	Cl	OCHF <sub>2</sub>	Br	CH
Et	6-Me	Cl	OCHF <sub>2</sub>	Br	CH	Et	6-C1	Cl	OCHF <sub>2</sub>	Br	CH
i-Pr	6-Me	C1	$OCHF_2$	Br	CH	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	Br	CH
t-Bu	6-Me	Cl	OCHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	6-C1	C1	OCHF <sub>2</sub>	Br	CH
Me	6-Me	C1	SCHF <sub>2</sub>	Br	CH	Me	6-C1	C1	SCHF <sub>2</sub>	Br	CH
Et	6-Me	C1	SCHF <sub>2</sub>	Br	CH	Et	6-C1	C1	SCHF <sub>2</sub>	Br	CH
i-Pr	6-Me	C1	SCHF <sub>2</sub>	Br	CH	<i>i-</i> Pr	6-C1	Cl	SCHF <sub>2</sub>	Br	CH
t-Bu	6-Me	C1	SCHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	6-C1	C1	SCHF <sub>2</sub>	Br	CH
Me	6-Me	Cl	OCF <sub>3</sub>	Br	CH	Me	6-C1	C1	OCF <sub>3</sub>	Br	CH
Et	6-Me	C1	OCF <sub>3</sub>	Br	CH	Et	6-C1	C1	OCF <sub>3</sub>	Br	CH
i-Pr	6-Me	Cl	OCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	Br	CH
t-Bu	6-Me	Cl	OCF <sub>3</sub>	Br	CH	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	Br	CH
Me	6-Me	Cl	SCF <sub>3</sub>	Br	CH	Me	6-C1	C1	SCF <sub>3</sub>	Br	CH
Et	6-Me	Cl	SCF <sub>3</sub>	Br	CH	Et	6-C1	C1	SCF <sub>3</sub>	Br	CH
<i>i-</i> Pr	6-Me	C1	SCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	Br	CH
t-Bu	6-Me	Cl	SCF <sub>3</sub>	Br	CH	<i>t</i> -Bu	6-C1	Cl	SCF <sub>3</sub>	Br	CH
Me	6-Me	Cl	$C_2F_5$	Br	CH	Me	6-C1	C1	$C_2F_5$	Br	CH
Et	6-Me	Cl	$C_2F_5$	Br	CH	Et	6-C1	C1	$C_2F_5$	Br	CH
i-Pr	6-Me	Cl	$C_2F_5$	Br	CH	i-Pr	6-C1	Cl	$C_2F_5$	Br	CH

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<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
t-Bu	6-Me	Cl	$C_2F_5$	Br	CH	<i>t</i> -Bu	6-C1	C1	$C_2F_5$	Br	CH
Me	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Ме	6-Cl	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
i-Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	$\mathbf{C}\mathbf{H}$
t-Bu	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t</i> -Bu	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	Ci	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	i-Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	C1	CN	Br	CH	Me	6-C1	C1	CN	Br	CH
Et	6-Me	Cl	CN	Br	CH	Et	6-C1	Cl	CN	Br	CH
i-Pr	6-Me	C1	CN	Br	CH	<i>i-</i> Pr	6-C1	Cl	CN	Br	CH
t-Bu	6-Me	C1	CN	Br	CH	t-Bu	6-C1	Cl	CN	Br	CH
Me	6-Me	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
<i>i</i> -Pr	6-Me	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Me	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Ме	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	OCF <sub>3</sub>	$CF_3$	CH	Et	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Ме	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH
<i>i</i> -Pr	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	CH	Me	6-C1	C1	$C_2F_5$	CF <sub>3</sub>	CH
Et	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	CH	Et	6-C1	C1	$C_2F_5$	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	CF <sub>3</sub>	CH
t-Bu	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	CH	t-Bu	6-C1	C1	$C_2F_5$	CF <sub>3</sub>	CH
Me	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH	Me	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH

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$\mathbb{R}^3$	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{X}}$	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{X}}$
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH
i-Pr	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Ме	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-Cl	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	C1	CN	CF <sub>3</sub>	CH	Me	6-C1	C1	CN	CF <sub>3</sub>	CH
Et	6-Ме	C1	CN	$CF_3$	CH	Et	6-C1	Cl	CN	CF <sub>3</sub>	CH
i-Pr	6-Me	Cl	CN	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-Cl	Cl	CN	CF <sub>3</sub>	CH
t-Bu	6-Me	Cl	CN	CF <sub>3</sub>	CH	t-Bu	6-Cl	Cl	CN	CF <sub>3</sub>	CH
Me	6-Me	H	OCHF <sub>2</sub>	F	CF	Me	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	F	CF
Et	6-Me	H	OCHF <sub>2</sub>	F	CF	Et	6-C1	H	OCHF <sub>2</sub>	F	CF
i-Pr	6-Ме	H	OCHF <sub>2</sub>	F	CF	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	F	CF
t-Bu	6-Me	H	OCHF <sub>2</sub>	F	CF	<i>t</i> -Bu	6-C1	H	OCHF <sub>2</sub>	F	CF
Me	6-Me	H	SCHF <sub>2</sub>	F	CF	Me	6-C1	H	$SCHF_2$	F	CF
Et	6-Me	H	SCHF <sub>2</sub>	F	CF	Et	6-C1	H	$SCHF_2$	F	CF
i-Pr	6-Me	H	SCHF <sub>2</sub>	F	CF	<i>i-</i> Pr	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	F	CF
t-Bu	6-Me	H	SCHF <sub>2</sub>	F	CF	<i>t</i> -Bu	6-C1	H	SCHF <sub>2</sub>	F	CF
Me	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	CF	Me	6-C1	H	OCF <sub>3</sub>	F	CF
Et	6-Ме	H	OCF <sub>3</sub>	F	CF	Et	6-C1	H	OCF <sub>3</sub>	F	CF
i-Pr	6-Me	H	OCF <sub>3</sub>	$\mathbf{F}$	CF	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	F	CF
t-Bu	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	$\mathbf{F}$	CF	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	F	CF
Me	6-Me	H	SCF <sub>3</sub>	$\mathbf{F}$	CF	Me	6-C1	H	SCF <sub>3</sub>	F	CF
Et	6-Me	H	SCF <sub>3</sub>	F	CF	Et	6-C1	H	SCF <sub>3</sub>	F	CF
<i>i-</i> Pr	6-Ме	$\mathbf{H}$	SCF <sub>3</sub>	F	CF	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	F	CF
t-Bu	6-Me	H	SCF <sub>3</sub>	F	CF	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	F	CF
Me	6-Me	$\mathbf{H}$	$C_2F_5$	F	CF	Me	6-C1	H	$C_2F_5$	F	CF
Et	6-Me	$\mathbf{H}$	$C_2F_5$	F	CF	Et	6-C1	H	$C_2F_5$	F	CF
i-Pr	6-Me	H	$C_2F_5$	F	CF	<i>i-</i> Pr	6-C1	H	$C_2F_5$	F	CF
t-Bu	6-Me	H	$C_2F_5$	F	CF	<i>t</i> -Bu	6-C1	H	$C_2F_5$	F	CF
Me	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Et	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
i-Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF
t-Bu	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	<i>t</i> -Bu	6-C1	н	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	CF
Me	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
i-Pr	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF	<i>i-</i> Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF
t-Bu	6-Ме	н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	<i>t-</i> Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	CF
Me	6-Ме	Н	CN	F	CF	Me	6-C1	$\mathbf{H}$	CN	F	CF
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$\underline{\mathbb{R}^3}$	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>x</u>	$\underline{\mathbb{R}^3}$	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
Et	6-Ме	H	CN	F	CF	Et	6-C1	$\mathbf{H}$	CN	F	CF
<i>i-</i> Pr	6-Ме	H	CN	F	CF	<i>i-</i> Pr	6-C1	$\mathbf{H}$	CN	$\mathbf{F}$	CF
t-Bu	6-Ме	H	CN	F	CF	t-Bu	6-C1	$\mathbf{H}$	CN	F	CF
Me	6-Ме	H	OCHF <sub>2</sub>	Cl	CC1	Me	6-C1	H	$OCHF_2$	C1	CCI
Et	6-Me	$\mathbf{H}$	$OCHF_2$	Cl	CCI	Et	6-C1	$\mathbf{H}$	$OCHF_2$	Cl	CC1
<i>i</i> -Pr	6-Me	$\mathbf{H}$	$OCHF_2$	Cl	CC1	<i>i</i> -Pr	6-C1	H	OCHF <sub>2</sub>	C1	CC1
t-Bu	6-Me	$\mathbf{H}$	$OCHF_2$	<b>C</b> 1	CCI	t-Bu	6-C1	H	OCHF <sub>2</sub>	Cl	CC1
Me	6-Me	H	SCHF <sub>2</sub>	C1	CCI	Me	6-C1	H	SCHF <sub>2</sub>	Cl	CC1
Et	6-Me	H	SCHF <sub>2</sub>	C1	CC1	Et	6-C1	H	SCHF <sub>2</sub>	Cl	CCI
i-Pr	6-Me	H	SCHF <sub>2</sub>	C1	CC1	<i>i-</i> Pr	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CC1
t-Bu	6-Me	H	SCHF <sub>2</sub>	C1	CCl	t-Bu	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CC1
Me	6-Ме	H	OCF <sub>3</sub>	Cl	CC1	Me	6-C1	H	OCF <sub>3</sub>	C1	CC1
Et	6-Me	H	OCF <sub>3</sub>	C1	CC1	Et	6-C1	H	OCF <sub>3</sub>	C1	CCl
i-Pr	6-Ме	H	OCF <sub>3</sub>	C1	CC1	i-Pr	6-C1	H	OCF <sub>3</sub>	C1	CCI
t-Bu	6-Me	H	OCF <sub>3</sub>	C1	CC1	<i>t-</i> Bu	6-C1	H	OCF <sub>3</sub>	Cl	CC1
Me	6-Ме	H	SCF <sub>3</sub>	C1	CC1	Me	6-C1	H	SCF <sub>3</sub>	C1	CC1
Et	6-Me	H	SCF <sub>3</sub>	Cl	CC1	Et	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	C1	CCl
i-Pr	6-Me	H	SCF <sub>3</sub>	Cl	CCI	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	Cl	CCl
t-Bu	6-Me	H	SCF <sub>3</sub>	C1	CC1	t-Bu	6-C1	H	SCF <sub>3</sub>	C1	CCI
Me	6-Ме	H	$C_2F_5$	C1	CC1	Me	6-C1	H	$C_2F_5$	Cl	CCI
Et	6-Me	H	$C_2F_5$	<b>C</b> 1	CCI	Et	6-C1	H	$C_2F_5$	C1	CCI
i-Pr	6-Me	$\mathbf{H}$	$C_2F_5$	C1	CC1	<i>i-</i> Pr	6-C1	H	$C_2F_5$	C1	CC1
t-Bu	6-Me	H	$C_2F_5$	C1	CC1	t-Bu	6-C1	$\mathbf{H}$	$C_2F_5$	Cl	CCI
Me	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CC1	Me	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Cl	CCI
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CC1	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CC1
i-Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CC1	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CCl
t-Bu	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CC1	<i>t</i> -Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CCI
Me	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Cl	CC1	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CCI
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CC1	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CCl
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CC1	i-Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CC1
t-Bu	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	C1	CC1	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CCI
Me	6-Ме	$\mathbf{H}$	CN	C1	CC1	Me	6-C1	н	CN	Cl	CC1
Et	6-Me	H	CN	C1	CC1	Et	6-C1	H	CN	Cl	CCI
i-Pr	6-Me	H	CN	C1	CC1	i-Pr	6-Cl	H	CN	C1	CCI
t-Bu	6-Me	H	CN	Cl	CCl	t-Bu	6-C1	H	CN	C1	CCI

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Table 10

$$R^{4b}$$
 $R^{4a}$ 
 $R^{3}$ 
 $R^{4b}$ 
 $R^{6}$ 

<u>R<sup>4a</sup></u>	$\mathbb{R}^{4b}$	$\underline{\mathbf{R}^9}$	$\underline{R^3}$	<u>R</u> 6	<u>R<sup>4a</sup></u>	$R^{4b}$	$\underline{R}^9$	$\underline{R^3}$	<u>R</u> 6
CH <sub>3</sub>	F	CF <sub>3</sub>	Me	Cl	C1	Br	CH <sub>2</sub> CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	F	CF <sub>3</sub>	Et	Cl	C1	Br	$CH_2CF_3$	Et	Br
CH <sub>3</sub>	F	CF <sub>3</sub>	i-Pr	Cl	C1	Br	CH <sub>2</sub> CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	F	CF <sub>3</sub>	t-Bu	Cl	C1	Br	$CH_2CF_3$	t-Bu	Br
CH <sub>3</sub>	F	CF <sub>3</sub>	Me	Br	C1	Br	$CF_2CHF_2$	Me	C1
CH <sub>3</sub>	F	CF <sub>3</sub>	Et	Br	C1	Br	$CF_2CHF_2$	Et	C1
CH <sub>3</sub>	F	CF <sub>3</sub>	i-Pr	Br	C1	Br	$CF_2CHF_2$	i-Pr	C1
CH <sub>3</sub>	F	CF <sub>3</sub>	t-Bu	Br	Cl	Br	$CF_2CHF_2$	t-Bu	Cl
CH <sub>3</sub>	F	$CH_2CF_3$	Me	Cl	Cl	Br	$CF_2CHF_2$	Me	Br
CH <sub>3</sub>	F	CH <sub>2</sub> CF <sub>3</sub>	Et	Cl	Cl	Br	$CF_2CHF_2$	Et	Br
CH <sub>3</sub>	F	$CH_2CF_3$	i-Pr	C1	C1	Br	$CF_2CHF_2$	<i>i-</i> Pr	Br
CH <sub>3</sub>	F	$CH_2CF_3$	t-Bu	C1	C1	Br	$CF_2CHF_2$	t-Bu	Br
CH <sub>3</sub>	F	CH <sub>2</sub> CF <sub>3</sub>	Me	Br	C1	Ι	CF <sub>3</sub>	Me	C1
CH <sub>3</sub>	F	$CH_2CF_3$	Et	Br	C1	I	CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	F	$CH_2CF_3$	i-Pr	Br	C1	I	CF <sub>3</sub>	i-Pr	C1
CH <sub>3</sub>	F	$CH_2CF_3$	t-Bu	Br	C1	I	CF <sub>3</sub>	t-Bu	C1
$CH_3$	F	$CF_2CHF_2$	Me	Cl	Cl	I	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	F	$CF_2CHF_2$	Et	C1	Cl	I	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	F	$CF_2CHF_2$	i-Pr	Cl	Cl	I	CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	F	$CF_2CHF_2$	t-Bu	Cl	C1	Ι	CF <sub>3</sub>	t-Bu	Br
$CH_3$	F	$CF_2CHF_2$	Me	Br	Cl	I	$CH_2CF_3$	Me	C1
CH <sub>3</sub>	F	CF <sub>2</sub> CHF <sub>2</sub>	Et	Br	C1	I	CH <sub>2</sub> CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	F	$CF_2CHF_2$	i-Pr	Br	Cl	I	$CH_2CF_3$	<i>i-</i> Pr	C1
CH <sub>3</sub>	F	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Br	Cl	I	$CH_2CF_3$	t-Bu	Cl
$CH_3$	Cl	CF <sub>3</sub>	Me	Cl	C1	I	$CH_2CF_3$	Me	Br
$CH_3$	Cl	CF <sub>3</sub>	Et	C1	Cl	Ι	$CH_2CF_3$	Et	Br
CH <sub>3</sub>	C1	CF <sub>3</sub>	i-Pr	C1	Cl	I	CH <sub>2</sub> CF <sub>3</sub>	<i>i</i> -Pr	Br
$CH_3$	Cl	CF <sub>3</sub>	<i>t</i> -Bu	Cl	Cl	I	$CH_2CF_3$	t-Bu	Br

<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	$\underline{\mathbb{R}^9}$	<u>R<sup>3</sup></u>	<u>R</u> 6
CH <sub>3</sub>	C1	CF <sub>3</sub>	Me	Br	C1	Ι	$CF_2CHF_2$	Me	C1
$CH_3$	C1	CF <sub>3</sub>	Et	Br	C1	Ι	$CF_2CHF_2$	Et	C1
$CH_3$	Cl	CF <sub>3</sub>	<i>i-</i> Pr	Br	C1	I	$CF_2CHF_2$	i-Pr	Cl
CH <sub>3</sub>	Cl	CF <sub>3</sub>	t-Bu	Br	C1	I	$CF_2CHF_2$	t-Bu	Cl
$CH_3$	C1	$CH_2CF_3$	Me	C1	C1	Ι	$CF_2CHF_2$	Me	Br
$CH_3$	Cl	$CH_2CF_3$	Et	C1	C1	Ι	$CF_2CHF_2$	Et	Br
$CH_3$	Cl	$CH_2CF_3$	i-Pr	C1	C1	Ι	$CF_2CHF_2$	i-Pr	Br
$CH_3$	C1	$CH_2CF_3$	t-Bu	C1	C1	Ι	$CF_2CHF_2$	t-Bu	Br
$CH_3$	C1	$CH_2CF_3$	Me	Br	C1	CF <sub>3</sub>	CF <sub>3</sub>	Me	Cl
$CH_3$	C1	$CH_2CF_3$	Et	Br	C1	CF <sub>3</sub>	CF <sub>3</sub>	Et	Cl
$CH_3$	Cl	$CH_2CF_3$	i-Pr	Br	C1	CF <sub>3</sub>	CF <sub>3</sub>	i-Pr	Cl
$CH_3$	Cl	$CH_2CF_3$	<i>t</i> -Bu	Br	C1	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	C1
$CH_3$	Cl	$CF_2CHF_2$	Me	Cl	C1	CF <sub>3</sub>	CF <sub>3</sub>	Me	Br
$CH_3$	Cl	$CF_2CHF_2$	Et	C1	C1	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br
$CH_3$	Cl	$CF_2CHF_2$	<i>i</i> -Pr	Cl	C1	CF <sub>3</sub>	CF <sub>3</sub>	i-Pr	Br
$CH_3$	Cl	$CF_2CHF_2$	t-Bu	C1	C1	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br
$CH_3$	C1	CF <sub>2</sub> CHF <sub>2</sub>	Me	Br	C1	CF <sub>3</sub>	$CH_2CF_3$	Me	Cl
$CH_3$	C1	$CF_2CHF_2$	Et	Br	C1	CF <sub>3</sub>	$CH_2CF_3$	Et	Cl
$CH_3$	C1	$CF_2CHF_2$	i-Pr	Br	C1	CF <sub>3</sub>	$CH_2CF_3$	i-Pr	Cl
$CH_3$	C1	$CF_2CHF_2$	t-Bu	Br	C1	CF <sub>3</sub>	$CH_2CF_3$	t-Bu	C1
$CH_3$	Br	CF <sub>3</sub>	Me	C1	C1	CF <sub>3</sub>	$CH_2CF_3$	Me	Br
$CH_3$	Br	CF <sub>3</sub>	Et	Cl	C1	CF <sub>3</sub>	$CH_2CF_3$	Et	Br
$CH_3$	Br	CF <sub>3</sub>	i-Pr	C1	C1	CF <sub>3</sub>	$CH_2CF_3$	i-Pr	Br
$CH_3$	Br	CF <sub>3</sub>	t-Bu	C1	Cl	CF <sub>3</sub>	$CH_2CF_3$	t-Bu	Br
$CH_3$	Br	CF <sub>3</sub>	Me	Br	C1	CF <sub>3</sub>	$CF_2CHF_2$	Me	C1
$CH_3$	Br	CF <sub>3</sub>	Et	Br	C1	CF <sub>3</sub>	$CF_2CHF_2$	Et	C1
$CH_3$	$\mathbf{Br}$	CF <sub>3</sub>	i-Pr	Br	Cl	CF <sub>3</sub>	$CF_2CHF_2$	i-Pr	C1
$CH_3$	Br	CF <sub>3</sub>	t-Bu	$\mathbf{Br}$	C1	CF <sub>3</sub>	$CF_2CHF_2$	t-Bu	C1
$CH_3$	Br	CH <sub>2</sub> CF <sub>3</sub>	Me	Cl	Cl	CF <sub>3</sub>	$CF_2CHF_2$	Me	Br
$CH_3$	Br	CH <sub>2</sub> CF <sub>3</sub>	Et	Cl	Cl	CF <sub>3</sub>	$CF_2CHF_2$	Et	Br
$CH_3$	Br	$CH_2CF_3$	i-Pr	Cl	Cl	CF <sub>3</sub>	$CF_2CHF_2$	i-Pr	Br
CH <sub>3</sub>	Br	$CH_2CF_3$	t-Bu	C1	Cl	CF <sub>3</sub>	$CF_2CHF_2$	t-Bu	Br
CH <sub>3</sub>	Br	CH <sub>2</sub> CF <sub>3</sub>	Me	Br	Cl	C1	$CH_2CF_3$	n-Pr	C1
CH <sub>3</sub>	Br	CH <sub>2</sub> CF <sub>3</sub>	Et	Br	Cl	Cl	$CH_2CF_3$	n-Bu	C1
CH <sub>3</sub>	Br	CH <sub>2</sub> CF <sub>3</sub>	i-Pr	Br	Cl	C1	$CH_2CF_3$	s-Bu	Cl
CH <sub>3</sub>	Br	$CH_2CF_3$	t-Bu	Br	Cl	Cl	$CH_2CF_3$	<i>i-</i> Bu	Cl
$CH_3$	Br	$CF_2CHF_2$	Me	C1	Br	F	CF <sub>3</sub>	Me	C1

R <sup>4a</sup>	R <sup>4b</sup>	$R^9$	<u>R</u> 3	<u>R</u> 6	R <sup>4a</sup>	R <sup>4b</sup>	<u>R<sup>9</sup></u>	<u>R<sup>3</sup></u>	<u>R</u> 6
CH <sub>3</sub>	Br	CF <sub>2</sub> CHF <sub>2</sub>	Et	Cl	Br	F	CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	Br	CF <sub>2</sub> CHF <sub>2</sub>	<i>i</i> -Pr	Cl	Br	F	CF <sub>3</sub>	<i>i-</i> Pr	Cl
CH <sub>3</sub>	Br	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	C1	Br	F	CF <sub>3</sub>	<i>t</i> -Bu	Cl
CH <sub>3</sub>	Br	CF <sub>2</sub> CHF <sub>2</sub>	Me	Br	Br	F	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	Br	CF <sub>2</sub> CHF <sub>2</sub>	Et	Br	Br	F	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	Br	CF <sub>2</sub> CHF <sub>2</sub>	<i>i-</i> Pr	Br	Br	F	CF <sub>3</sub>	<i>i-</i> Pr	Br
CH <sub>3</sub>	Br	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Br	Br	F	CF <sub>3</sub>	<i>t</i> -Bu	Br
CH <sub>3</sub>	Ι	CF <sub>3</sub>	Me	Cl	Br	F	CH <sub>2</sub> CF <sub>3</sub>	Me	C1
CH <sub>3</sub>	I	CF <sub>3</sub>	Et	Cl	Br	F	CH <sub>2</sub> CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	I	CF <sub>3</sub>	i-Pr	C1	Br	F	CH <sub>2</sub> CF <sub>3</sub>	i-Pr	C1
CH <sub>3</sub>	I	CF <sub>3</sub>	t-Bu	C1	Br	F	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	C1
CH <sub>3</sub>	Ι	CF <sub>3</sub>	Me	Br	Br	F	CH <sub>2</sub> CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	I	CF <sub>3</sub>	Et	Br	Br	F	CH <sub>2</sub> CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	I	CF <sub>3</sub>	<i>i</i> -Pr	Br	Br	F	$CH_2CF_3$	i-Pr	Br
CH <sub>3</sub>	I	CF <sub>3</sub>	t-Bu	Br	Br	F	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	Ι	CH <sub>2</sub> CF <sub>3</sub>	Me	C1	Br	F	$CF_2CHF_2$	Me	Cl
$CH_3$	I	$CH_2CF_3$	Et	Cl	Br	F	$CF_2CHF_2$	Et	C1
$CH_3$	I	$CH_2CF_3$	<i>i</i> -Pr	Cl	Br	F	$CF_2CHF_2$	i-Pr	C1
CH <sub>3</sub>	1	$CH_2CF_3$	t-Bu	Cl	Br	F	$CF_2CHF_2$	t-Bu	C1
$CH_3$	I	$CH_2CF_3$	Me	Br	Br	F	$CF_2CHF_2$	Me	Br
$CH_3$	I	$CH_2CF_3$	Et	Br	Br	F	$CF_2CHF_2$	Et	Br
$CH_3$	Ι	$CH_2CF_3$	<i>i-</i> Pr	Br	Br	F	$CF_2CHF_2$	i-Pr	Br
$CH_3$	I	$CH_2CF_3$	t-Bu	Br	Br	F	$CF_2CHF_2$	t-Bu	Br
$CH_3$	Ι	$CF_2CHF_2$	Me	C1	Br	Cl	CF <sub>3</sub>	Me	C1
$CH_3$	Ι	$CF_2CHF_2$	Et	C1	Br	C1	CF <sub>3</sub>	Et	Cl
$CH_3$	Ι	$CF_2CHF_2$	i-Pr	C1	Br	Cl	CF <sub>3</sub>	<i>i-</i> Pr	Cl
CH <sub>3</sub>	Ι	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	C1	Br	Cl	CF <sub>3</sub>	t-Bu	Cl
CH <sub>3</sub>	1	$CF_2CHF_2$	Me	Br	Br	C1	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	I	$CF_2CHF_2$	Et	Br	Br	C1	CF <sub>3</sub>	Et	Br
$CH_3$	1	CF <sub>2</sub> CHF <sub>2</sub>	i-Pr	Br	Br	C1	CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	1	$CF_2CHF_2$	t-Bu	Br	Br	C1	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Me	Cl	Br	Cl	$CH_2CF_3$	Me	Cl
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Et	C1	Br	Cl	CH <sub>2</sub> CF <sub>3</sub>	Et	C1
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	Cl	Br	C1	CH <sub>2</sub> CF <sub>3</sub>	<i>i-</i> Pr	C1
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Cl	Br	CI	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	C1
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Me	Br	Br	Cl	CH <sub>2</sub> CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br	Br	C1	CH <sub>2</sub> CF <sub>3</sub>	Et	Br

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$R^{4a}$	<u>R</u> 4b	<u>R</u> 9	$\mathbb{R}^3$	<u>R</u> 6	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 3	<u>R</u> 6
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	i-Pr	Br	Br	C1	CH <sub>2</sub> CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br	Br	C1	CH <sub>2</sub> CF <sub>3</sub>	<i>t</i> -Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	Me	Cl	Br	C1	$CF_2CHF_2$	Me	Cl
CH <sub>3</sub>	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	Et	Cl	Br	Cl	$CF_2CHF_2$	Et	Cl
CH <sub>3</sub>	CF3	$CH_2CF_3$	i-Pr	Cl	Br	C1	$CF_2CHF_2$	i-Pr	C1
CH <sub>3</sub>	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	C1	Br	C1	$CF_2CHF_2$	t-Bu	Cl
CH <sub>3</sub>	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	Me	Br	Br	Cl	$CF_2CHF_2$	Me	Br
CH <sub>3</sub>	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	Et	Br	Br	Cl	$CF_2CHF_2$	Et	Br
CH <sub>3</sub>	CF <sub>3</sub>	$CH_2CF_3$	i-Pr	Br	Br	C1	$CF_2CHF_2$	i-Pr	Br
CH <sub>3</sub>	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Br	Br	C1	$CF_2CHF_2$	t-Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	$CF_2CHF_2$	Me	Cl	Br	Br	CF <sub>3</sub>	Me	Cl
CH <sub>3</sub>	CF <sub>3</sub>	$CF_2CHF_2$	Et	Cl	Br	Br	CF <sub>3</sub>	Et	C1
CH <sub>3</sub>	CF <sub>3</sub>	$CF_2CHF_2$	i-Pr	Cl	Br	Br	CF <sub>3</sub>	i-Pr	C1
CH <sub>3</sub>	CF <sub>3</sub>	$CF_2CHF_2$	t-Bu	Cl	Br	Br	CF <sub>3</sub>	t-Bu	C1
CH <sub>3</sub>	CF <sub>3</sub>	$CF_2CHF_2$	Me	Br	Br	Br	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	CF <sub>3</sub>	$CF_2CHF_2$	Et	Br	Br	Br	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	CF <sub>3</sub>	$CF_2CHF_2$	i-Pr	Br	Br	Br	CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Br	Br	Br	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	C1	$CH_2CF_3$	n-Pr	Cl	Br	Br	$CH_2CF_3$	Me	Cl
CH <sub>3</sub>	C1	CH <sub>2</sub> CF <sub>3</sub>	n-Bu	C1	Br	Br	$CH_2CF_3$	Et	C1
CH <sub>3</sub>	C1	$CH_2CF_3$	s-Bu	Cl	Br	Br	$CH_2CF_3$	<i>i-</i> Pr	C1
CH <sub>3</sub>	C1	$CH_2CF_3$	<i>i</i> -Bu	Cl	Br	Br	$CH_2CF_3$	t-Bu	C1
C1	F	CF <sub>3</sub>	Me	C1	Br	Br	$CH_2CF_3$	Me	Br
C1	F	CF <sub>3</sub>	Et	Cl	Br	Br	$CH_2CF_3$	Et	Br
C1	F	CF <sub>3</sub>	i-Pr	Cl	Br	Br	$CH_2CF_3$	i-Pr	Br
C1	F	CF <sub>3</sub>	t-Bu	C1	Br	Br	$CH_2CF_3$	t-Bu	Br
Cl	F	CF <sub>3</sub>	Me	Br	Br	Br	$CF_2CHF_2$	Me	C1
C1	F	CF <sub>3</sub>	Et	Br	Br	Br	$CF_2CHF_2$	Et	C1
C1	F	CF <sub>3</sub>	i-Pr	Br	Br	Br	$CF_2CHF_2$	<i>i</i> -Pr	C1
Cl	F	CF <sub>3</sub>	t-Bu	Br	Br	Br	$CF_2CHF_2$	t-Bu	C1
Cl	F	$CH_2CF_3$	Me	Cl	Br	Br	$CF_2CHF_2$	Me	Br
C1	F	$CH_2CF_3$	Et	Cl	Br	Br	CF <sub>2</sub> CHF <sub>2</sub>	Et	Br
C1	F	$CH_2CF_3$	i-Pr	C1	Br	Br	CF <sub>2</sub> CHF <sub>2</sub>	<i>i-</i> Pr	Br
Cl	F	$CH_2CF_3$	t-Bu	Cl	Br	Br	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Br
C1	F	$CH_2CF_3$	Me	Br	Br	1	CF <sub>3</sub>	Me	C1
C1	F	$CH_2CF_3$	Et	Br	Br	I	CF <sub>3</sub>	Et	C1
C1	F	$CH_2CF_3$	<i>i-</i> Pr	Br	Br	I	CF <sub>3</sub>	i-Pr	C1

R <sup>4a</sup>	R4b	<u>R<sup>9</sup></u>	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 3	<u>R</u> 6
Cl	F	$CH_2CF_3$	t-Bu	Br	Br	Ι	CF <sub>3</sub>	t-Bu	Cl
Cl	F	$CF_2CHF_2$	Me	Cl	Br	I	CF <sub>3</sub>	Me	Br
Cl	F	CF <sub>2</sub> CHF <sub>2</sub>	Et	Cl	Br	I	CF <sub>3</sub>	Et	Br
Cl	F	$CF_2CHF_2$	i-Pr	Cl	Br	I	CF <sub>3</sub>	i-Pr	Br
Cl	F	$CF_2CHF_2$	t-Bu	Cl	Br	I	CF <sub>3</sub>	t-Bu	Br
Cl	F	CF <sub>2</sub> CHF <sub>2</sub>	Me	Br	Br	I	CH <sub>2</sub> CF <sub>3</sub>	Me	C1
Cl	F	CF <sub>2</sub> CHF <sub>2</sub>	Et	Br	Br	I	CH <sub>2</sub> CF <sub>3</sub>	Et	C1
Cl	F	$CF_2CHF_2$	<i>i-</i> Pr	Br	Br	Ι	$CH_2CF_3$	<i>i-</i> Pr	C1
C1	F	$CF_2CHF_2$	t-Bu	Br	Br	I	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Cl
Cl	C1	CF <sub>3</sub>	Me	C1	Br	I	CH <sub>2</sub> CF <sub>3</sub>	Me	Br
C1	C1	CF <sub>3</sub>	Et	C1	Br	I	$CH_2CF_3$	Et	Br
Cl	C1	CF <sub>3</sub>	i-Pr	C1	Br	Ι	$CH_2CF_3$	i-Pr	Br
C1	C1	CF <sub>3</sub>	t-Bu	C1	Br	I	$CH_2CF_3$	t-Bu	Br
C1	Cl	CF <sub>3</sub>	Me	Br	Br	Ι	$CF_2CHF_2$	Me	Cl
Cl	C1	CF <sub>3</sub>	Et	Br	Br	I	$CF_2CHF_2$	Et	<b>C</b> 1
<b>C</b> 1	Cl	CF <sub>3</sub>	<i>i-</i> Pr	Br	Br	I	$CF_2CHF_2$	i-Pr	C1
C1	C1	CF <sub>3</sub>	t-Bu	Br	Br	I	$CF_2CHF_2$	t-Bu	Cl
C1	Cl	$CH_2CF_3$	Me	Cl	Br	I	$CF_2CHF_2$	Me	Br
Cl	Cl	$CH_2CF_3$	Et	C1	Br	I	$CF_2CHF_2$	Et	Br
C1	Cl	$CH_2CF_3$	i-Pr	C1	Br	I	$CF_2CHF_2$	<i>i-</i> Pr	Br
C1	C1	$CH_2CF_3$	<i>t-</i> Bu	Cl	Br	I	$CF_2CHF_2$	t-Bu	Br
C1	C1	$CH_2CF_3$	Me	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	Me	Cl
C1	C1	$CH_2CF_3$	Et	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	Et	C1
C1	Cl	$CH_2CF_3$	<i>i-</i> Pr	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	C1
Cl	C1	$CH_2CF_3$	t-Bu	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	C1
C1	C1	$CF_2CHF_2$	Me	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	Me	Br
C1	C1	CF <sub>2</sub> CHF <sub>2</sub>	Et	Cl	Br	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br
Cl	C1	CF <sub>2</sub> CHF <sub>2</sub>	<i>i-</i> Pr	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	i-Pr	Br
C1	C1	$CF_2CHF_2$	t-Bu	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br
Cl	C1	$CF_2CHF_2$	Me	Br	Br	CF <sub>3</sub>	$CH_2CF_3$	Me	Cl
C1	C1	$CF_2CHF_2$	Et	Br	Br	CF <sub>3</sub>	$CH_2CF_3$	Et	Cl
C1	C1	CF <sub>2</sub> CHF <sub>2</sub>	<i>i-</i> Pr	Br	Br	CF <sub>3</sub>	$CH_2CF_3$	i-Pr	C1
C1	C1	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Br	Br	CF <sub>3</sub>	$CH_2CF_3$	t-Bu	C1
Cl	Br	CF <sub>3</sub>	Me	Cl	Br	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	Me	Br
C1	Br	CF <sub>3</sub>	Et	C1	Br	CF <sub>3</sub>	$CH_2CF_3$	Et	$\mathbf{Br}$
Cl	Br	CF <sub>3</sub>	i-Pr	Cl	Br	CF <sub>3</sub>	$CH_2CF_3$	<i>i-</i> Pr	Br
Cl	Br	CF <sub>3</sub>	t-Bu	C1	Br	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Br

<u>R<sup>4a</sup></u>	R4b	<u>R</u> 9	<u>R<sup>3</sup></u>	<u>R</u> 6	<u>R</u> 4a	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R<sup>3</sup></u>	<u>R</u> 6
Cl	Br	CF <sub>3</sub>	Me	Br	Br	CF <sub>3</sub>	$CF_2CHF_2$	Me	Cl
Cl	Br	CF <sub>3</sub>	Et	Br	Br	CF <sub>3</sub>	$CF_2CHF_2$	Et	C1
Cl	Br	CF <sub>3</sub>	i-Pr	Br	Br	CF <sub>3</sub>	$CF_2CHF_2$	<i>i</i> -Pr	C1
Cl	Br	CF <sub>3</sub>	t-Bu	Br	Br	CF <sub>3</sub>	$CF_2CHF_2$	t-Bu	C1
C1	Br	$CH_2CF_3$	Me	Cl	Br	CF <sub>3</sub>	$CF_2CHF_2$	Me	Br
Cl	Br	$CH_2CF_3$	Et	C1	Br	CF <sub>3</sub>	$CF_2CHF_2$	Et	Br
C1	Br	$CH_2CF_3$	i-Pr	C1	Br	CF <sub>3</sub>	$CF_2CHF_2$	i-Pr	Br
Cl	Br	$CH_2CF_3$	t-Bu	Cl	Br	CF <sub>3</sub>	$CF_2CHF_2$	t-Bu	Br
$CH_3$	H	CF <sub>3</sub>	Me	Cl	Cl	H	CF <sub>3</sub>	Me	C1
$CH_3$	H	CF <sub>3</sub>	Et	Cl	C1	H	CF <sub>3</sub>	Et	C1
$CH_3$	H	CF <sub>3</sub>	i-Pr	Cl	C1	H	CF <sub>3</sub>	<i>i</i> -Pr	Cl
$CH_3$	H	CF <sub>3</sub>	t-Bu	Cl	C1	H	CF <sub>3</sub>	t-Bu	C1
$CH_3$	H	CF <sub>3</sub>	Me	Br	C1	H	CF <sub>3</sub>	Me	Br
$CH_3$	H	CF <sub>3</sub>	Et	Br	C1	H	CF <sub>3</sub>	Et	Br
$CH_3$	H	CF <sub>3</sub>	i-Pr	Br	C1	H	CF <sub>3</sub>	<i>i-</i> Pr	Br
$CH_3$	H	CF <sub>3</sub>	t-Bu	Br	C1	H	CF <sub>3</sub>	t-Bu	Br
$CH_3$	H	$CH_2CF_3$	Me	C1	C1	H	$CH_2CF_3$	Me	C1
$CH_3$	H	$CH_2CF_3$	Et	C1	Cl	H	CH <sub>2</sub> CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	H	$CH_2CF_3$	i-Pr	Cl	Cl	H	CH <sub>2</sub> CF <sub>3</sub>	<i>i-</i> Pr	C1
CH <sub>3</sub>	H	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Cl	C1	H	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Cl
CH <sub>3</sub>	H	$CH_2CF_3$	Me	Br	Cl	H	CH <sub>2</sub> CF <sub>3</sub>	Me	Br
$CH_3$	H	$CH_2CF_3$	Et	Br	C1	H	CH <sub>2</sub> CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	H	$CH_2CF_3$	i-Pr	Br	Cl	H	CH <sub>2</sub> CF <sub>3</sub>	<i>i-</i> Pr	Br
$CH_3$	H	$CH_2CF_3$	t-Bu	Br	C1	$\mathbf{H}$	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	Н	CF <sub>2</sub> CHF <sub>2</sub>	Me	Cl	Cl	$\mathbf{H}$	CF <sub>2</sub> CHF <sub>2</sub>	Me	Cl
CH <sub>3</sub>	H	CF <sub>2</sub> CHF <sub>2</sub>	Et	Cl	Cl	H	CF <sub>2</sub> CHF <sub>2</sub>	Et	Cl
CH <sub>3</sub>	H	CF <sub>2</sub> CHF <sub>2</sub>	i-Pr	C1	C1	H	CF <sub>2</sub> CHF <sub>2</sub>	<i>i-</i> Pr	Cl
CH <sub>3</sub>	H	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	C1	C1	H	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Cl
CH <sub>3</sub>	H	CF <sub>2</sub> CHF <sub>2</sub>	Me	Br	C1	H	CF <sub>2</sub> CHF <sub>2</sub>	Me	Br
CH <sub>3</sub>	H	CF <sub>2</sub> CHF <sub>2</sub>	Et	Br	C1	$\mathbf{H}$	CF <sub>2</sub> CHF <sub>2</sub>	Et	Br
CH <sub>3</sub>	H	CF <sub>2</sub> CHF <sub>2</sub>	<i>i-</i> Pr	Br	C1	H	CF <sub>2</sub> CHF <sub>2</sub>	i-Pr	Br
CH <sub>3</sub>	H	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Br	C1	H	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Br
CH <sub>3</sub>	F	CHF <sub>2</sub>	Me	Cl	CH <sub>3</sub>	Cl	CHF <sub>2</sub>	Me	Cl
CH <sub>3</sub>	F	CHF <sub>2</sub>	Et	C1	CH <sub>3</sub>	Cl	CHF <sub>2</sub>	Et	C1
CH <sub>3</sub>	F	CHF <sub>2</sub>	i-Pr	Cl	CH <sub>3</sub>	Cl	CHF <sub>2</sub>	<i>i-</i> Pr	Cl
CH <sub>3</sub>	F	CHF <sub>2</sub>	t-Bu	C1	CH <sub>3</sub>	Cl	CHF <sub>2</sub>	<i>t</i> -Bu	Cl
CH <sub>3</sub>	F	CHF <sub>2</sub>	Me	Br	CH <sub>3</sub>	C1	CHF <sub>2</sub>	Me	Br

$\underline{R^{4a}}$	<u>R4b</u>	<u>R</u> 9	<u>R</u> 3	<u>R</u> 6	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 3	<u>R</u> 6
CH <sub>3</sub>	F	CHF <sub>2</sub>	Et	Br	CH <sub>3</sub>	C1	CHF <sub>2</sub>	Et	Br
$CH_3$	F	CHF <sub>2</sub>	i-Pr	Br	CH <sub>3</sub>	C1	$CHF_2$	<i>i</i> -Pr	Br
CH <sub>3</sub>	F	CHF <sub>2</sub>	t-Bu	Br	CH <sub>3</sub>	C1	$CHF_2$	t-Bu	Br
C1	F	CHF <sub>2</sub>	Me	C1	C1	F	$CHF_2$	Me	Cl
C1	F	CHF <sub>2</sub>	Et	Cl	C1	F	$CHF_2$	Et	C1
Cl	F	CHF <sub>2</sub>	i-Pr	C1	Cl	F	$CHF_2$	<i>i-</i> Pr	Cl
Cl	F	CHF <sub>2</sub>	t-Bu	CI	C1	F	CHF <sub>2</sub>	t-Bu	C1
C1	F	CHF <sub>2</sub>	Me	Br	C1	F	$CHF_2$	Me	Br
Cl	F	CHF <sub>2</sub>	Et	Br	Cl	F	CHF <sub>2</sub>	Et	Br
C1	F	CHF <sub>2</sub>	i-Pr	Br	C1	F	CHF <sub>2</sub>	i-Pr	Br
Cl	F	CHF <sub>2</sub>	t-Bu	Br	C1	F	CHF <sub>2</sub>	t-Bu	Br
CH <sub>3</sub>	Br	CHF <sub>2</sub>	Me	C1	CH <sub>3</sub>	I	CHF <sub>2</sub>	Me	C1
$CH_3$	Br	CHF <sub>2</sub>	Et	Cl	CH <sub>3</sub>	I	$CHF_2$	Et	C1
CH <sub>3</sub>	Br	CHF <sub>2</sub>	<i>i</i> -Pr	C1	CH <sub>3</sub>	I	CHF <sub>2</sub>	i-Pr	C1
CH <sub>3</sub>	Br	CHF <sub>2</sub>	t-Bu	C1	CH <sub>3</sub>	I	CHF <sub>2</sub>	t-Bu	C1
$CH_3$	Br	CHF <sub>2</sub>	Me	Br	CH <sub>3</sub>	I	CHF <sub>2</sub>	Me	Br
CH <sub>3</sub>	Br	CHF <sub>2</sub>	Et	Br	CH <sub>3</sub>	I	CHF <sub>2</sub>	Et	Br
CH <sub>3</sub>	Br	CHF <sub>2</sub>	i-Pr	Br	CH <sub>3</sub>	I	CHF <sub>2</sub>	i-Pr	Br
CH <sub>3</sub>	Br	CHF <sub>2</sub>	t-Bu	Br	CH <sub>3</sub>	I	CHF <sub>2</sub>	t-Bu	Br
C1	Br	CHF <sub>2</sub>	Me	C1	C1	I	CHF <sub>2</sub>	Me	C1
C1	Br	CHF <sub>2</sub>	Et	C1	C1	I	CHF <sub>2</sub>	Et	C1
C1	Br	CHF <sub>2</sub>	<i>i-</i> Pr	C1	Cl	I	CHF <sub>2</sub>	<i>i</i> -Pr	Cl
C1	Br	CHF <sub>2</sub>	t-Bu	C1	Cl	I	CHF <sub>2</sub>	t-Bu	C1
C1	Br	CHF <sub>2</sub>	Me	Br	Cl	I	CHF <sub>2</sub>	Me	Br
Cl	Br	CHF <sub>2</sub>	Et	Br	Cl	I	CHF <sub>2</sub>	Et	Br
C1	Br	CHF <sub>2</sub>	i-Pr	Br	Cl	I	CHF <sub>2</sub>	<i>i</i> -Pr	Br
Cl	Br	CHF <sub>2</sub>	t-Bu	Br	Cl	I	CHF <sub>2</sub>	t-Bu	Br
$CH_3$	H	CHF <sub>2</sub>	Me	Br	Cl	$\mathbf{H}$	CHF <sub>2</sub>	Me	Br
$CH_3$	H	CHF <sub>2</sub>	Et	Br	Cl	$\mathbf{H}$	$CHF_2$	Et	Br
$CH_3$	H	CHF <sub>2</sub>	<i>i-</i> Pr	Br	Cl	H	CHF <sub>2</sub>	<i>i-</i> Pr	Br
$CH_3$	H	CHF <sub>2</sub>	t-Bu	Br	C1	$\mathbf{H}$	CHF <sub>2</sub>	t-Bu	Br

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Table 11

<u>R</u> 3	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R4b</u>	$\mathbb{R}^9$	<u>R</u> 6
Me	3-Me	H	CF <sub>3</sub>	F	Me	3-C1	H	CF <sub>3</sub>	F
Et	3-Me	5-Me	CHF <sub>2</sub>	F	Et	3-C1	5-Me	CHF <sub>2</sub>	F
<i>i</i> -Pr	3-Me	$\mathbf{H}$	CHF <sub>2</sub>	F	<i>i-</i> Pr	3-C1	Н	CHF <sub>2</sub>	F
t-Bu	3-Me	5-C1	$CH_2CF_3$	F	<i>t-</i> Bu	3-C1	5-C1	$CH_2CF_3$	F
Me	3-Me	H	$CH_2CF_3$	F	Ме	3-C1	$\mathbf{H}$	$CH_2CF_3$	F
Et	3-Ме	H	$CF_2CHF_2$	F	Et	3-C1	H	CF <sub>2</sub> CHF <sub>2</sub>	F
i-Pr	3-Ме	5-Br	$CF_2CHF_2$	F	<i>i-</i> Pr	3-C1	5-Br	$CF_2CHF_2$	F
t-Bu	3-Me	H	Et	F	<i>t-</i> Bu	3-C1	$\mathbf{H}$	Et	F
propargyl	3-Ме	H	CF <sub>3</sub>	F	propargyl	3-CI	H	CF <sub>3</sub>	F
c-propyl	3-Me	H	CHF <sub>2</sub>	F	c-propyl	3-C1	$\mathbf{H}$	CHF <sub>2</sub>	F
<i>i</i> -Pr	3-Me	5-C1	CF <sub>3</sub>	F	i-Pr	3-C1	5-C1	CF <sub>3</sub>	F
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	t-Bu	3-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F
Me	3-Me	5-C1	i-C <sub>3</sub> F <sub>7</sub>	F	Ме	3-C1	5-C1	i-C <sub>3</sub> F <sub>7</sub>	F
Et	3-Ме	H	i-Pr	F	Et	3-C1	$\mathbf{H}$	<i>i-</i> Pr	F
i-Pr	3-Me	H	CF <sub>3</sub>	F	i-Pr	3-C1	H	CF <sub>3</sub>	F
t-Bu	3-Me	H	$C_2F_5$	F	<i>t</i> -Bu	3-C1	$\mathbf{H}$	$C_2F_5$	F
propargyl	3-Ме	H	$C_2F_5$	F	propargyl	3-C1	$\mathbf{H}$	$C_2F_5$	F
c-propyl	3-Me	H	CF <sub>3</sub>	F	c-propyl	3-C1	H	CF <sub>3</sub>	F
i-Pr	3-Ме	H	n-Pr	F	<i>i-</i> Pr	3-C1	$\mathbf{H}$	n-Pr	F
t-Bu	3-Me	5-Br	$CH_2CH_2C1$	F	<i>t-</i> Bu	3-C1	5-Br	$CH_2CH_2CI$	F
Me	3-Me	$\mathbf{H}$	CF <sub>3</sub>	C1	Me	3-C1	$\mathbf{H}$	CF <sub>3</sub>	Cl
Et	3-Me	5-Me	$CHF_2$	C1	Et	3-C1	5-Me	CHF <sub>2</sub>	C1
<i>i</i> -Pr	3-Ме	H	CHF <sub>2</sub>	C1	i-Pr	3-C1	$\mathbf{H}$	$CHF_2$	C1
t-Bu	3-Me	5-C1	CH <sub>2</sub> CF <sub>3</sub>	C1	<i>t</i> -Bu	3-C1	5-C1	$CH_2CF_3$	Cl
Me	3-Me	H	CH <sub>2</sub> CF <sub>3</sub>	C1	Ме	3-C1	$\mathbf{H}$	$CH_2CF_3$	C1
Et	3-Me	H	$CF_2CHF_2$	C1	Et	3-C1	$\mathbf{H}$	$CF_2CHF_2$	Cl
i-Pr	3-Ме	5-Br	$CF_2CHF_2$	C1	<i>i-</i> Pr	3-C1	5-Br	$CF_2CHF_2$	C1
t-Bu	3-Me	H	Et	C1	<i>t</i> -Bu	3-C1	$\mathbf{H}$	Et	C1

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<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6
propargyl	3-Me	H	CF <sub>3</sub>	Cl	propargyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	C1
c-propyl	3-Me	H	CHF <sub>2</sub>	C1	c-propyl	3-C1	H	$CHF_2$	C1
i-Pr	3-Ме	5-C1	CF <sub>3</sub>	Cl	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	C1
t-Bu	3-Ме	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Cl	t-Bu	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl
Me	3-Ме	5-C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	Me	3-C1	5-C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
Et	3-Ме	H	i-Pr	C1	Et	3-C1	$\mathbf{H}$	<i>i-</i> Pr	Cl
<i>i</i> -Pr	3-Me	Н	CF <sub>3</sub>	C1	<i>i-</i> Pr	3-C1	$\mathbf{H}$	CF <sub>3</sub>	Cl
t-Bu	3-Me	H	$C_2F_5$	C1	<i>t</i> -Bu	3-C1	$\mathbf{H}$	$C_2F_5$	Cl
propargyl	3-Me	$\mathbf{H}$	$C_2F_5$	C1	propargyl	3-C1	H	$C_2F_5$	Cl
c-propyl	3-Me	$\mathbf{H}$	CF <sub>3</sub>	C1	c-propyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	C1
<i>i</i> -Pr	3-Ме	$\mathbf{H}$	n-Pr	C1	<i>i-</i> Pr	3-C1	$\mathbf{H}$	n-Pr	C1
t-Bu	3-Ме	5-Br	CH <sub>2</sub> CH <sub>2</sub> Cl	Cl	<i>t-</i> Bu	3-C1	5-Br	CH <sub>2</sub> CH <sub>2</sub> Cl	Cl
Me	3-Me	$\mathbf{H}$	CF <sub>3</sub>	CF <sub>3</sub>	Me	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
Et	3-Ме	5-Me	CHF <sub>2</sub>	CF <sub>3</sub>	Et	3-C1	5-Me	CHF <sub>2</sub>	CF <sub>3</sub>
i-Pr	3-Ме	$\mathbf{H}$	CHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	H	CHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	3-Me	5-C1	$CH_2CF_3$	CF <sub>3</sub>	<i>t</i> -Bu	3-C1	5-C1	$CH_2CF_3$	CF <sub>3</sub>
Me	3-Me	H	$CH_2CF_3$	CF <sub>3</sub>	Me	3-C1	H	$CH_2CF_3$	CF <sub>3</sub>
Et	3-Ме	H	$CF_2CHF_2$	CF <sub>3</sub>	Et	3-C1	H	$CF_2CHF_2$	CF <sub>3</sub>
i-Pr	3-Ме	5-Br	$CF_2CHF_2$	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-Br	CF <sub>2</sub> CHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	3-Me	H	Et	CF <sub>3</sub>	t-Bu	3-C1	H	Et	CF <sub>3</sub>
propargyl	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	propargyl	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
c-propyl	3-Me	H	CHF <sub>2</sub>	CF <sub>3</sub>	c-propyl	3-C1	H	CHF <sub>2</sub>	CF <sub>3</sub>
i-Pr	3-Me	5-C1	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	t-Bu	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	3-Me	5-C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Ме	3-C1	5-C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	3-Me	$\mathbf{H}$	i-Pr	CF <sub>3</sub>	Et	3-C1	H	i-Pr	CF <sub>3</sub>
<i>i-</i> Pr	3-Me	$\mathbf{H}$	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Me	H	$C_2F_5$	CF <sub>3</sub>	<i>t-</i> Bu	3-C1	H	$C_2F_5$	CF <sub>3</sub>
propargyl	3-Me	H	$C_2F_5$	CF <sub>3</sub>	propargyl	3-C1	H	$C_2F_5$	CF <sub>3</sub>
c-propyl	3-Me	$\mathbf{H}$	CF <sub>3</sub>	CF <sub>3</sub>	c-propyl	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	3-Me	$\mathbf{H}$	n-Pr	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	H	n-Pr	CF <sub>3</sub>
t-Bu	3-Me	5-Br	CH <sub>2</sub> CH <sub>2</sub> Cl	CF <sub>3</sub>	<i>t-</i> Bu	3-C1	5-Br	CH <sub>2</sub> CH <sub>2</sub> Cl	CF <sub>3</sub>
Me	3-Me	$\mathbf{H}$	CF <sub>3</sub>	Br	Me	3-C1	H	CF <sub>3</sub>	Br
Et	3-Me	5-Me	CHF <sub>2</sub>	Br	Et	3-C1	5-Me	$CHF_2$	Br
i-Pr	3-Me	H	CHF <sub>2</sub>	Br	<i>i-</i> Pr	3-C1	H	CHF <sub>2</sub>	Br
t-Bu	3-Me	5-C1	$CH_2CF_3$	Br	t-Bu	3-C1	5-C1	$CH_2CF_3$	Br
Me	3-Ме	H	CH <sub>2</sub> CF <sub>3</sub>	Br	Ме	3-C1	H	$CH_2CF_3$	Br

<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6
Et	3-Ме	H	CF <sub>2</sub> CHF <sub>2</sub>	Br	Et	3-C1	H	$CF_2CHF_2$	Br
<i>i</i> -Pr	3-Me	5-Br	$CF_2CHF_2$	Br	<i>i-</i> Pr	3-C1	5-Br	$CF_2CHF_2$	Br
<i>t</i> -Bu	3-Me	H	Et	Br	t-Bu	3-C1	H	Et	Br
propargyl	3-Me	H	CF <sub>3</sub>	Br	propargyl	3-C1	H	CF <sub>3</sub>	Br
c-propyl	3-Me	H	CHF <sub>2</sub>	Br	c-propyl	3-C1	H	CHF <sub>2</sub>	Br
<i>i-</i> Pr	3-Me	5-C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	Br
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br
Me	3-Me	5-Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	3-C1	5-C1	i-C <sub>3</sub> F <sub>7</sub>	Br
Et	3-Me	H	<i>i</i> -Pr	Br	Et	3-C1	H	i-Pr	Br
<i>i-</i> Pr	3-Me	$\mathbf{H}$	CF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	Br
t-Bu	3-Me	H	$C_2F_5$	Br	<i>t</i> -Bu	3-C1	H	$C_2F_5$	Br
propargyl	3-Me	H	$C_2F_5$	Br	propargyl	3-C1	H	$C_2F_5$	Br
c-propyl	3-Me	H	CF <sub>3</sub>	Br	c-propyl	3-C1	H	CF <sub>3</sub>	Br
<i>i-</i> Pr	3-Me	$\mathbf{H}$	n-Pr	Br	<i>i-</i> Pr	3-C1	H	n-Pr	Br
t-Bu	3-Me	5-Br	$CH_2CH_2CI$	Br	<i>t</i> -Bu	3-C1	5-Br	CH <sub>2</sub> CH <sub>2</sub> Cl	Br
Me	6-Me	H	CHF <sub>2</sub>	F	Me	6-C1	H	CHF <sub>2</sub>	F
Et	6-Me	H	CHF <sub>2</sub>	F	Et	6-C1	H	CHF <sub>2</sub>	F
i-Pr	6-Me	H	CHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	H	CHF <sub>2</sub>	F
t-Bu	6-Me	H	CHF <sub>2</sub>	F	t-Bu	6-C1	H	CHF <sub>2</sub>	F
Me	6-Me	H	n-Pr	F	Me	6-C1	H	n-Pr	F
Et	6-Ме	H	n-Pr	F	Et	6-C1	H	n-Pr	F
<i>i-</i> Pr	6-Ме	H	n-Pr	F	i-Pr	6-C1	H	n-Pr	F
t-Bu	6-Me	Н	n-Pr	F	<i>t-</i> Bu	6-C1	H	n-Pr	F
Me	6-Me	H	CF <sub>3</sub>	F	Me	6-C1	H	CF <sub>3</sub>	F
Et	6-Me	H	CF <sub>3</sub>	F	Et	6-C1	H	CF <sub>3</sub>	F
<i>i</i> -Pr	6-Me	H	CF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	F
t-Bu	6-Me	H	CF <sub>3</sub>	F	t-Bu	6-C1	H	CF <sub>3</sub>	F
Me	6-Me	H	<i>i</i> -Pr	F	Me	6-C1	H	<i>i-</i> Pr	F
Et	6-Me	H	i-Pr	F	Et	6-C1	H	<i>i-</i> Pr	F
<i>i-</i> Pr	6-Me	H	i-Pr	F	<i>i-</i> Pr	6-Cl	H	<i>i-</i> Pr	F
t-Bu	6-Ме	H	i-Pr	F	<i>t-</i> Bu	6-C1	H	<i>i-</i> Pr	F
Me	6-Me	H	$C_2F_5$	F	Me	6-C1	H	$C_2F_5$	F
Et	6-Ме	$\mathbf{H}$	$C_2F_5$	F	Et	6-C1	H	$C_2F_5$	F
<i>i-</i> Pr	6-Me	· <b>H</b>	$C_2F_5$	F	i-Pr	6-C1	H	$C_2F_5$	F
t-Bu	6-Ме	H	$C_2F_5$	F	<i>t-</i> Bu	6-C1	H	$C_2F_5$	F
Me	6-Ме	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6
<i>i-</i> Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	Ме	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
Et	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	<i>t-</i> Bu	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Ме	$\mathbf{H}$	Et	F	Ме	6-C1	H	Et	F
Et	6-Me	H	Et	F	Et	6-C1	$\mathbf{H}$	Et	F
i-Pr	6-Me	H	Et	F	<i>i-</i> Pr	6-C1	H	Et	F
t-Bu	6-Me	H	Et	F	t-Bu	6-C1	H	Et	F
Me	6-Ме	H	CHF <sub>2</sub>	C1	Me	6-C1	H	CHF <sub>2</sub>	C1
Et	6-Me	H	CHF <sub>2</sub>	C1	Et	6-C1	H	CHF <sub>2</sub>	C1
<i>i-</i> Pr	6-Me	H	CHF <sub>2</sub>	Cl	<i>i-</i> Pr	6-C1	Н	CHF <sub>2</sub>	Cl
t-Bu	6-Me	H	CHF <sub>2</sub>	C1	<i>t-</i> Bu	6-C1	H	CHF <sub>2</sub>	C1
Me	6-Me	H	n-Pr	C1	Me	6-C1	H	n-Pr	C1
Et	6-Me	$\mathbf{H}$	n-Pr	C1	Et	6-C1	H	n-Pr	C1
<i>i</i> -Pr	6-Me	H	<i>n</i> -Pr	C1	<i>i-</i> Pr	6-C1	H	n-Pr	C1
<i>t</i> -Bu	6-Ме	H	n-Pr	Cl	<i>t</i> -Bu	6-C1	H	<i>n</i> -Pr	Cl
Me	6-Me	H	CF <sub>3</sub>	Cl	Me	6-C1	$\mathbf{H}$	CF <sub>3</sub>	Cl
Et	6-Ме	$\mathbf{H}$	CF <sub>3</sub>	C1	Et	6-C1	H	CF <sub>3</sub>	Cl
<i>i-</i> Pr	6-Me	H	CF <sub>3</sub>	Cl	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	C1
t-Bu	6-Ме	H	CF <sub>3</sub>	Cl	<i>t-</i> Bu	6-C1	H	CF <sub>3</sub>	Cl
Me	6-Ме	H	<i>i-</i> Pr	C1	Me	6-C1	H	i-Pr	Cl
Et	6-Ме	$\mathbf{H}$	<i>i-</i> Pr	C1	Et	6-C1	H	i-Pr	C1
<i>i</i> -Pr	6-Me	H	i-Pr	C1	<i>i-</i> Pr	6-C1	H	<i>i-</i> Pr	Cl
t-Bu	6-Me	H	i-Pr	Cl	<i>t-</i> Bu	6-C1	H	i-Pr	Cl
Me	6-Me	H	$C_2F_5$	Cl	Me	6-C1	H	$C_2F_5$	C1
Et	6-Ме	H	$C_2F_5$	Cl	Et	6-C1	H	$C_2F_5$	C1
i-Pr	6-Me	H	$C_2F_5$	Cl	<i>i-</i> Pr	6-C1	H	$C_2F_5$	C1
t-Bu	6-Me	H	$C_2F_5$	Cl	<i>t-</i> Bu	6-C1	H	$C_2F_5$	C1
Me	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	Ме	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	Et	6-Cl	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
i-Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	<i>i-</i> Pr	6-Cl	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	<i>t-</i> Bu	6-Cl	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl
Et	6-Me	H	<i>i-</i> C <sub>3</sub> F <sub>7</sub>	Cl	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
<i>i-</i> Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	<i>i-</i> Pr	6-Cl	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1

<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R<sup>9</sup></u>	<u>R</u> 6	<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6
t-Bu	6-Ме	H	$i$ -C $_3$ F $_7$	Cl	<i>t-</i> Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Me	H	Et	C1	Me	6-C1	$\mathbf{H}$	Et	Cl
Et	6-Ме	H	Et	C1	Et	6-C1	$\mathbf{H}$	Et	Cl
<i>i</i> -Pr	6-Ме	H	Et	C1	<i>i-</i> Pr	6-C1	H	Et	C1
t-Bu	6-Ме	H	Et	Cl	t-Bu	6-C1	H	Et	C1
Me	6-Ме	H	CHF <sub>2</sub>	Br	Me	6-C1	H	CHF <sub>2</sub>	Br
Et	6-Ме	H	CHF <sub>2</sub>	Br	Et	6-C1	H	CHF <sub>2</sub>	Br
i-Pr	6-Ме	H	CHF <sub>2</sub>	Br	<i>i</i> -Pr	6-C1	H	CHF <sub>2</sub>	Br
t-Bu	6-Ме	H	CHF <sub>2</sub>	Br	t-Bu	6-C1	H	CHF <sub>2</sub>	Br
Me	6-Ме	H	n-Pr	Br	Me	6-C1	H	n-Pr	Br
Et	6-Ме	H	n-Pr	Br	Et	6-C1	$\mathbf{H}$	n-Pr	Br
i-Pr	6-Ме	H	n-Pr	Br	<i>i-</i> Pr	6-C1	H	n-Pr	Br
t-Bu	6-Ме	$\mathbf{H}$	n-Pr	Br	t-Bu	6-C1	$\mathbf{H}$	n-Pr	Br
Me	6-Ме	H	CF <sub>3</sub>	Br	Me	6-C1	H	CF <sub>3</sub>	Br
Et	6-Ме	H	CF <sub>3</sub>	Br	Et	6-C1	H	CF <sub>3</sub>	Br
<i>i-</i> Pr	6-Ме	H	CF <sub>3</sub>	Br	<i>i</i> -Pr	6-C1	Н	CF <sub>3</sub>	Br
t-Bu	6-Ме	H	CF <sub>3</sub>	Br	t-Bu	6-C1	H	CF <sub>3</sub>	Br
Me	6-Ме	H	<i>i</i> -Pr	Br	Me	6-C1	H	<i>i-</i> Pr	Br
Et	6-Ме	Н	<i>i</i> -Pr	Br	Et	6-C1	H	<i>i-</i> Pr	Br
<i>i-</i> Pr	6-Me	H	<i>i-</i> Pr	Br	<i>i-</i> Pr	6-Cl	H	<i>i-</i> Pr	Br
<i>t</i> -Bu	6-Ме	H	<i>i</i> -Pr	Br	<i>t</i> -Bu	6-C1	$\mathbf{H}$	<i>i-</i> Pr	Br
Me	6-Ме	H	$C_2F_5$	Br	Me	6-C1	H	$C_2F_5$	Br
Et	6-Ме	H	$C_2F_5$	Br	Et	6-C1	H	$C_2F_5$	Br
<i>i</i> -Pr	6-Ме	H	$C_2F_5$	Br	<i>i-</i> Pr	6-C1	H	$C_2F_5$	Br
t-Bu	6-Ме	H	$C_2F_5$	Br	t-Bu	6-CI	H	$C_2F_5$	Br
Me	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Br	Me	6-CI	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
i-Pr	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Br	<i>t-</i> Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
<i>i-</i> Pr	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>t-</i> Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Ме	H	Et	Br	Me	6-C1	Н	Et	Br
Et	6-Ме	H	Et	Br	Et	6-Cl	Н	Et	Br
<i>i-</i> Pr	6-Ме	H	Et	Br	<i>i-</i> Pr	6-C1	H	Et	Br
t-Bu	6-Me	H	Et	Br	<i>t-</i> Bu	6-C1	H	Et	Br

<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R<sup>9</sup></u>	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R4b</u>	<u>R<sup>9</sup></u>	<u>R</u> 6
Me	6-Me	Н	$CHF_2$	CF <sub>3</sub>	Me	6-C1	H	$CHF_2$	CF <sub>3</sub>
Et	6-Me	Н	$CHF_2$	CF <sub>3</sub>	Et	6-C1	H	$CHF_2$	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	$\mathbf{H}$	CHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Н	$CHF_2$	CF <sub>3</sub>
t-Bu	6-Me	Н	$CHF_2$	CF <sub>3</sub>	<i>t-</i> Bu	6-Cl	H	$CHF_2$	CF <sub>3</sub>
Me	6-Me	H	n-Pr	CF <sub>3</sub>	Me	6-C1	$\mathbf{H}$	n-Pr	CF <sub>3</sub>
Et	6-Me	Н	n-Pr	CF <sub>3</sub>	Et	6-C1	Н	n-Pr	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	n-Pr	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Н	<i>n</i> -Pr	CF <sub>3</sub>
t-Bu	6-Me	H	n-Pr	CF <sub>3</sub>	t-Bu	6-C1	H	n-Pr	CF <sub>3</sub>
Me	6-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
Et	6-Ме	Н	CF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	6-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	H	<i>i-</i> Pr	CF <sub>3</sub>	Me	6-C1	H	i-Pr	CF <sub>3</sub>
Et	6-Me	Н	<i>i-</i> Pr	CF <sub>3</sub>	Et	6-C1	H	i-Pr	CF <sub>3</sub>
i-Pr	6-Me	H	i-Pr	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	<i>i-</i> Pr	CF <sub>3</sub>
t-Bu	6-Me	H	i-Pr	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	<i>i-</i> Pr	CF <sub>3</sub>
Me	6-Me	H	$C_2F_5$	CF <sub>3</sub>	Me	6-C1	H	$C_2F_5$	CF <sub>3</sub>
Et	6-Me	H	$C_2F_5$	CF <sub>3</sub>	Et	6-C1	H	$C_2F_5$	CF <sub>3</sub>
i-Pr	6-Me	H	$C_2F_5$	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Me	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	t-Bu	6-C1	H	$C_2F_5$	CF <sub>3</sub>
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	. H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	H	Et	CF <sub>3</sub>	Me	6-C1	$\mathbf{H}$	Et	CF <sub>3</sub>
Et	6-Me	H	Et	CF <sub>3</sub>	Et	6-C1	H	Et	CF <sub>3</sub>
<i>i</i> -Pr	6-Me	H	Et	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	Et	CF <sub>3</sub>
t-Bu	6-Me	H	Et	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	Et	CF <sub>3</sub>
Me	6-Me	C1	CHF <sub>2</sub>	F	Me	6-C1	Cl	$CHF_2$	F
Et	6-Me	C1	$CHF_2$	F	Et	6-C1	C1	$CHF_2$	F
i-Pr	6-Me	C1	$CHF_2$	F	<i>i-</i> Pr	6-C1	C1	CHF <sub>2</sub>	F
t-Bu	6-Me	C1	$CHF_2$	F	<i>t-</i> Bu	6-C1	Cl	CHF <sub>2</sub>	F
Me	6-Me	C1	n-Pr	F	Me	6-C1	C1	n-Pr	F

<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	<u>R</u> 4a	<u>R4b</u>	<u>R<sup>9</sup></u>	<u>R</u> 6
Et	6-Ме	C1	n-Pr	F	Et	6-C1	Cl	n-Pr	F
<i>i-</i> Pr	6-Me	Cl	n-Pr	F	<i>i</i> -Pr	6-C1	C1	n-Pr	F
t-Bu	6-Ме	C1	<i>n</i> -Pr	F	t-Bu	6-C1	C1	n-Pr	F
Me	6-Ме	C1	CF <sub>3</sub>	$\mathbf{F}$	Me	6-C1	C1	CF <sub>3</sub>	F
Et	6-Me	Cl	CF <sub>3</sub>	F	Et	6-C1	Cl	CF <sub>3</sub>	F
i-Pr	6-Me	C1	CF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	Cl	CF <sub>3</sub>	F
t-Bu	6-Me	C1	CF <sub>3</sub>	F	t-Bu	6-C1	Cl	CF <sub>3</sub>	F
Me	6-Ме	C1	i-Pr	F	Me	6-C1	Cl	<i>i-</i> Pr	F
Et	6-Ме	Cl	i-Pr	F	Et	6-C1	Cl	<i>i</i> -Pr	F
i-Pr	6-Me	C1	<i>i</i> -Pr	F	<i>i</i> -Pr	6-C1	Cl	<i>i-</i> Pr	F
t-Bu	6-Me	Cl	i-Pr	F	<i>t</i> -Bu	6-C1	Cl	<i>i-</i> Pr	F
Me	6-Me	Cl	$C_2F_5$	F	Ме	6-C1	C1	$C_2F_5$	F
Et	6-Me	Cl	$C_2F_5$	F	Et	6-C1	Cl	$C_2F_5$	F
<i>i-</i> Pr	6-Me	Cl	$C_2F_5$	F	<i>i</i> -Pr	6-C1	Cl	$C_2F_5$	F
t-Bu	6-Me	Cl	$C_2F_5$	F	<i>t-</i> Bu	6-C1	CI	$C_2F_5$	F
Me	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
Et	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	CI	n-C <sub>3</sub> F <sub>7</sub>	F
<i>i-</i> Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	. <b>F</b>	i-Pr	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	F	Ме	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
i-Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	<i>t-</i> Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
Me	6-Ме	Cl	Et	F	Me	6-C1	Cl	Et	F
Et	6-Ме	CI	Et	F	Et	6-C1	C1	Et	F
i-Pr	6-Ме	Cl	Et .	F	<i>i-</i> Pr	6-C1	C1	Et	F
t-Bu	6-Me	C1	Et	F	<i>t</i> -Bu	6-C1	C1	Et	F
Me	6-Me	C1	CHF <sub>2</sub>	Cl	Me	6-C1	Cl	CHF <sub>2</sub>	Cl
Et	6-Me	Cl	CHF <sub>2</sub>	Cl 🕡	Et	6-C1	CI	CHF <sub>2</sub>	C1
i-Pr	6-Me	C1	CHF <sub>2</sub>	C1	i-Pr	6-C1	Cl	CHF <sub>2</sub>	C1
t-Bu	6-Me	C1	CHF <sub>2</sub>	Cl	t-Bu	6-C1	CI	CHF <sub>2</sub>	C1
Me	6-Me	C1	n-Pr	, C1	Me	6-C1	Cl	n-Pr	C1
Et	6-Me	CI	n-Pr	Cl	Et	6-C1	Cl	n-Pr	CI
i-Pr	6-Me	Cl	n-Pr	CI	<i>i-</i> Pr	6-CI	CI	n-Pr	CI
t-Bu	6-Me	C1	n-Pr	Cl	t-Bu	6-C1	Cl	n-Pr	Cl
Me	6-Me	C1	CF <sub>3</sub>	Cl	Me	6-C1	CI	CF <sub>3</sub>	Cl
Et	6-Me	C1	CF <sub>3</sub>	C1	Et	6-C1	Cl	CF <sub>3</sub>	C1

$\underline{R^3}$	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 6
i-Pr	6-Ме	Cl	CF <sub>3</sub>	Cl	<i>i-</i> Pr	6-C1	C1	CF <sub>3</sub>	Cl
<i>t-</i> Bu	6-Ме	Cl	CF <sub>3</sub>	Cl	t-Bu	6-C1	C1	CF <sub>3</sub>	Cl
Me	6-Me	Cl	<i>i-</i> Pr	Cl	Me	6-C1	Cl	i-Pr	Cl
Et	6-Me	C1	<i>i-</i> Pr	Cl	Et	6-C1	Cl	<i>i-</i> Pr	Cl
<i>i-</i> Pr	6-Ме	Cl	i-Pr	C1	<i>i-</i> Pr	6-C1	Cl	<i>i-</i> Pr	C1
t-Bu	6-Ме	C1	<i>i</i> -Pr	Cl	<i>t</i> -Bu	6-C1	Cl	i-Pr	Cl
Me	6-Me	C1	$C_2F_5$	C1	Me	6-C1	Cl	$C_2F_5$	Cl
Et	6-Me	C1	$C_2F_5$	Cl	Et	6-C1	Cl	$C_2F_5$	Cl
<i>i-</i> Pr	6-Ме	Cl	$C_2F_5$	Cl	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	CI
t-Bu	6-Me	Cl	$C_2F_5$	C1	<i>t-</i> Bu	6-C1	C1	$C_2F_5$	Cl
Me	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	Me	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl	Et	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
<i>i</i> -Pr	6-Ме	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	<i>i-</i> Pr	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl	<i>t-</i> Bu	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	Me	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CI
Et	6-Me	CI	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl
i-Pr	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	<i>t</i> -Bu	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl
Me	6-Me	Cl	Et	Cl	Me	6-C1	Cl	Et	C1
Et	6-Ме	C1	Et	C1	Et	6-C1	CI	Et	Cl
i-Pr	6-Me	Cl	Et	Cl	i-Pr	6-C1	Cl	Et	Cl
t-Bu	6-Me	C1	Et	Cl	t-Bu	6-C1	C1	Et	Cl
Me	6-Me	Cl	CHF <sub>2</sub>	Br	Me	6-C1	C1	CHF <sub>2</sub>	Br
Et	6-Me	CI	CHF <sub>2</sub>	Br	Et	6-C1	Cl	CHF <sub>2</sub>	Br
<i>i</i> -Pr	6-Ме	Cl	CHF <sub>2</sub>	Br	<i>i-</i> Pr	6-Cl	Cl	CHF <sub>2</sub>	Br
t-Bu	6-Me	Cl	CHF <sub>2</sub>	Br	t-Bu	6-C1	C1	CHF <sub>2</sub>	Br
Me	6-Me	Cl	n-Pr "	Br	Me	6-C1	C1	n-Pr	Br
Et	6-Me	Cl	n-Pr	Br	Et	6-C1	Cl	n-Pr	Br
<i>i-</i> Pr	6-Me	Cl	n-Pr	Br	<i>i-</i> Pr	6-C1	Cl	n-Pr	Br
t-Bu	6-Ме	Cl	n-Pr	Br	t-Bu	6-C1	Cl	n-Pr	Br
Me	6-Me	CI <sub>.</sub>	CF <sub>3</sub>	Br	Me	6-Cl	Cl	CF <sub>3</sub>	Br
Et	6-Ме	C1	CF <sub>3</sub>	'Br	Et	6-Cl	Ci	CF <sub>3</sub>	Br
i-Pr	6-Me	CI	CF <sub>3</sub>	Br	<i>i</i> -Pr	6-C1	Cl	CF <sub>3</sub>	Br
t-Bu	6-Me	Cl	CF <sub>3</sub>	Br	t-Bu	6-C1	Cl	CF <sub>3</sub>	Br
Me	6-Ме	CI	<i>i-</i> Pr	Br	Me	6-C1	Cl	<i>i-</i> Pr	Br
Et	6-Me	Cl	<i>i-</i> Pr	Br	Et	6-C1	C1	<i>i-</i> Pr	Br
<i>i-</i> Pr	6-Me	Cl	<i>i-</i> Pr	Br	<i>i-</i> Pr	6-C1	C1	<i>i-</i> Pr	Br

<u>R</u> 3	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R<sup>9</sup></u>	<u>R</u> 6
<i>t</i> -Bu	6-Me	C1	<i>i-</i> Pr	Br	t-Bu	6-C1	Cl	i-Pr	Br
Me	6-Me	CI	$C_2F_5$	Br	Me	6-CI	CI	$C_2F_5$	Br
Et	6-Ме	C1	$C_2F_5$	Br	Et	6-C1	Cl	$C_2F_5$	Br
<i>i-</i> Pr	6-Ме	Cl	$C_2F_5$	Br	i-Pr	6-C1	C1	$C_2F_5$	Br
t-Bu	6-Ме	Cl	$C_2F_5$	Br	t-Bu	6-C1	Cl	$C_2F_5$	Br
Me	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
i-Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	i-Pr	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	6-C1	Cl	n-C3F7	Br
Me	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
<i>i-</i> Pr	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	i-Pr	6-C1	Cl	i-C3F7	Br
t-Bu	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>t</i> -Bu	6-C1	C1	i-C3F7	Br
Me	6-Ме	C1	Et	Br	Me	6-C1	Cl	Et	Br
Et	6-Me	C1	Et	Br	Et	6-C1	Cl	Et	Br
i-Pr	6-Me	Cl	Et	Br	i-Pr	6-C1	C1	Et	Br
t-Bu	6-Me	C1	Et	Br	<i>t-</i> Bu	6-C1	Cl	Et	Br
Me	6-Me	C1	CHF <sub>2</sub>	CF <sub>3</sub>	Me	6-C1	Cl	CHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Me	C1	CHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	C1	CHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	Cl	CHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	CHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Ме	C1	CHF <sub>2</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-Cl	C1	CHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Me	C1	n-Pr	CF <sub>3</sub>	Me	6-C1	C1	n-Pr	CF <sub>3</sub>
Et	6-Me	Cl	n-Pr	CF <sub>3</sub>	Et	6-C1	C1	n-Pr	CF <sub>3</sub>
i-Pr	6-Ме	Cl	n-Pr	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	n-Pr	CF <sub>3</sub>
t-Bu	6-Ме	Cl	n-Pr	CF <sub>3</sub>	t-Bu	6-CI	C1	n-Pr	CF <sub>3</sub>
Me	6-Me	Cl	CF <sub>3</sub>	CF <sub>3</sub>	Me	6-Cl	Cl	CF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	C1	CF <sub>3</sub> "	CF <sub>3</sub>	Et	6-C1	C1	CF <sub>3</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	C1	CF <sub>3</sub>	CF <sub>3</sub>	i-Pr	6-C1	C1	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	6-C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	CI	<i>i-</i> Pr	CF <sub>3</sub>	Me	6-C1	Cl	<i>i-</i> Pr	CF <sub>3</sub>
Et	6-Me	Cl	i-Pr	CF <sub>3</sub>	Et	6-Cl	CI	<i>į</i> -Pr	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	C1	<i>i</i> -Pr	'CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	<i>i-</i> Pr	CF <sub>3</sub>
t-Bu	6-Me	Cl	i-Pr	CF <sub>3</sub>	t-Bu	6-C1	Cl	<i>i</i> -Pr	CF <sub>3</sub>
Me	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	Me	6-C1	C1	C <sub>2</sub> F <sub>5</sub>	CF <sub>3</sub>
Et	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	Et	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
i-Pr	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	t-Bu	6-Cl	Cl	$C_2F_5$	CF <sub>3</sub>

<u>R<sup>3</sup></u>	R <sup>4a</sup>	R4b	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 6
Me	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-Cl	CI	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-CI	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	Cl	Et	CF <sub>3</sub>	Me	6-C1	Cl	Et ,	CF <sub>3</sub>
Et	6-Me	Cl	Et	CF <sub>3</sub>	Et	6-Cl	CI	Et	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	Cl	Et	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	Et	CF <sub>3</sub>
t-Bu	6-Me	Cl	Et	CF <sub>3</sub>	t-Bu	6-C1	C1	Et	CF <sub>3</sub>

Table 12

<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 6	x	<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R</u> 9	<u>R</u> 6	$\underline{\mathbf{x}}$
Me	6-Me	H	CHF <sub>2</sub>	F	СН	Me	6-C1	H	CHF <sub>2</sub>	F	CH
Et	6-Me	H	CHF <sub>2</sub>	F	СН	Et	6-Cl	H	CHF <sub>2</sub>	F	CH
<i>i-</i> Pr	6-Me	H	CHF <sub>2</sub>	F	СН	i-Pr	6-C1	H	CHF <sub>2</sub>	· F	CH
t-Bu	6-Me	$\mathbf{H}$	CHF <sub>2</sub>	F	СН	<i>t</i> -Bu	6-C1	H	CHF <sub>2</sub>	F	CH
Me	6-Me	H	n-Pr	F	СН	Me	6-C1	H	n-Pr	F	CH
Et	6-Me	H	n-Pr	F	CH '	Et	6-C1	$\mathbf{H}$	n-Pr	F	CH
<i>i-</i> Pr	6-Me	H	n-Pr	F	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-Pr	F	CH
<i>t</i> -Bu	6-Me	Н	n-Pr	F	CH	<i>t</i> -Bu	6-C1	H	n-Pr	F	CH
Me	6-Me	H .	CF <sub>3</sub>	F	CH	Ме	6-C1	H	CF <sub>3</sub>	F	CH
Et	6-Me	H	CF <sub>3</sub>	F	CH	Et	6-Cl	H	CF <sub>3</sub>	F	CH
<i>i-</i> Pr	6-Me	H	CF <sub>3</sub>	F	СН	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	F	CH
· t-Bu	6-Me	H	CF <sub>3</sub>	F	CH	<i>t</i> -Bu	6-Cl	H	CF <sub>3</sub>	F	CH
Me	6-Me	H	i-Pr	F	CH	Me	6-C1	H	<i>i-</i> Pr	F	CH
Et	6-Me	H	i-Pr	F	СН	Et	6-C1	H	<i>i-</i> Pr	F	CH

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 6	X	<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	X
<i>i</i> -Pr	6-Me	H	<i>i</i> -Pr	F	CH	<i>i-</i> Pr	6-C1	H	<i>i-</i> Pr	F	CH
t-Bu	6-Me	H	<i>i-</i> Pr	F	CH	t-Bu	6-C1	H	<i>i-</i> Pr	F	CH
Me	6-Me	H	$C_2F_5$	F	CH	Me	6-C1	Н	$C_2F_5$	F	CH
Et	6-Me	H	$C_2F_5$	F	CH	Et	6-C1	Н	$C_2F_5$	F	CH
i-Pr	6-Me	H	$C_2F_5$	F	CH	<i>i</i> -Pr	6-C1	H	$C_2F_5$	F	CH
t-Bu	6-Me	H	$C_2F_5$	F	CH	t-Bu	6-C1	H	$C_2F_5$	F	CH
Me	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
<i>i-</i> Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	i-Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	· CH
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Ме	6-C1	H	$i$ - $C_3F_7$	F	CH
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Ме	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	H	Et	F	CH	Me	6-C1	H	Et	F	CH
Et	6-Me	H	Et	F	CH	Et	6-C1	H	Et	F	CH
i-Pr	6-Me	H	Et	F	CH	<i>i-</i> Pr	6-C1	H	Et	F	CH
t-Bu	6-Me	H	Et	F	CH	<i>t</i> -Bu	6-C1	H	Et	F	CH
Me	6-Me	H	CHF <sub>2</sub>	Cl	CH	Me	6-C1	H	CHF <sub>2</sub>	CI	CH
Et	6-Me	H	CHF <sub>2</sub>	CI	CH	Et	6-C1	H	CHF <sub>2</sub>	Cl	CH
i-Pr	6-Me	H	CHF <sub>2</sub>	Cl	CH	i-Pr	6-C1	H	CHF <sub>2</sub>	CI	CH
t-Bu	6-Me	H	CHF <sub>2</sub>	C1	CH	<i>t</i> -Bu	6-C1	H	CHF <sub>2</sub>	Cl	CH
Me	6-Me	H	n-Pr	Cl	CH	Me	6-C1	H	n-Pr	Cl	CH
Et	6-Me	H	n-Pr	Cl	CH	Et	6-C1	H	n-Pr	Cl	CH
i-Pr	6-Me	H	n-Pr	Cl	CH	i-Pr	6-C1	H	$n$ -P $\mathbf{r}$	Cl	CH
t-Bu	6-Ме	H	n-Pr	C1	CH	<i>t</i> -Bu	6-C1	H	n-Pr	C1	CH
Me	6-Ме	H	CF <sub>3</sub>	ĈI	CH	Me	6-C1	H	CF <sub>3</sub>	Cl	CH
Et	6-Me	H	CF <sub>3</sub>	C1	CH	Et	6-C1	H	CF <sub>3</sub>	Cl	CH
<i>i-</i> Pr	6-Ме	Ή	CF <sub>3</sub>	C1	CH	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	Cl	CH
<i>t-</i> Bu	6-Ме	H	CF <sub>3</sub>	C1	CH	t-Bu	6-C1	H	CF <sub>3</sub>	C1	CH
Me	6-Me	Η.	i-Pr	Cl	CH	Me	6-C1	H	<i>i-</i> Pr	Cl	CH
Et	6-Ме	H	<i>i-</i> Pr	C1	CH	Et	6-C1	H	<i>i-</i> Pr	Cl	CH
<i>i-</i> Pr	6-Me	H	<i>i-</i> Pr	C1	CH	i-Pr	6-C1	H	i-Pr	Cl	CH
t-Bu	6-Me	H	<i>i-</i> Pr	Cl	CH	<i>t</i> -Bu	6-C1	H	<i>i-</i> Pr	Cl	CH
Me	6-Me	H	$C_2F_5$	C1	CH	Me	6-C1	H	$C_2F_5$	Cl	CH
Et	6-Ме	H	$C_2F_5$	C1	CH	Et	6-C1	H	$C_2F_5$	Cl	CH
<i>i-</i> Pr	6-Me	H	$C_2F_5$	Cl	CH	i-Pr	6-Cl	H	$C_2F_5$	Cl	CH

9 <u>R</u> 6	Ē	3	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 6	<u>X</u>
F <sub>5</sub> Cl	[-]	Bu	6-CI	H	$C_2F_5$	Cl	CH
F7 Cl	N	Лe	6-Cl	H	n-C <sub>3</sub> F <sub>7</sub>	, CI	CH
3F <sub>7</sub> C1	I	Et	6-Cl	H	n-C <sub>3</sub> F <sub>7</sub>	, Cl	CH
F <sub>7</sub> Cl	i-	-Pr	6-CI	H	n-C <sub>3</sub> F <sub>7</sub>	, Cl	CH
F7 Cl	t-]	Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	7 C1	CH
F <sub>7</sub> Cl.	V	Лe	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C	CH
F <sub>7</sub> C1	I	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	<b>C</b> I	CH
F7 CI	i-	-Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C	CH
F7 CI	t-:	Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C	CH
t Cl	N	Мe	6-C1	H	Et	C	CH
t Cl	]	Et	6-C1	Н	Et	C	CH CH
t Cl	i-	-Pr	6-C1	H	Et	C	CH
t Cl	t-	Bu	6-C1	H	Et	C	CH
F <sub>2</sub> Br	N	Me	6-CI	H	CHF <sub>2</sub>	B	r CH
F <sub>2</sub> Br	]	Et	6-C1	H	CHF <sub>2</sub>	B	r CH
F <sub>2</sub> Br	i-	-Pr	6-CI	H	CHF <sub>2</sub>	В	r CH
F <sub>2</sub> Br	t-	-Bu	6-C1	H	CHF <sub>2</sub>	B	r CH
Pr Br	N	Me	6-C1	H	n-Pr	B	r CH
Pr Br	]	Et	6-C1	$\mathbf{H}$	n-Pr	B	r CH
Pr Br	i	-Pr	6-C1	H	n-Pr	В	r CH
Pr Br	t-	-Bu	6-C1	H	n-Pr	В	r CH
F <sub>3</sub> Br	N	Me	6-C1	H	CF <sub>3</sub>	В	r CH
F <sub>3</sub> Br	]	Et	6-C1	H	CF <sub>3</sub>	В	r CH
F <sub>3</sub> Br	i	-Pr	6-C1	H	CF <sub>3</sub>	В	r CH
F <sub>3</sub> Br	t-	-Bu	6-C1	H	CF <sub>3</sub>	В	r CH
Pr Br	ľ	Me	6-Cl	H	<i>i-</i> Pr	В	r CH
Pr Br		Et	6-C1	$\mathbf{H}$	<i>i-</i> Pr	В	r CH
Pr Br	i	-Pr	6-C1	H	i-Pr	В	r CH
Pr Br	t-	-Bu	6-Cl	H	<i>i-</i> Pr	В	r CH
F <sub>5</sub> Br	1	Me	6-C1	H	$C_2F_5$	В	r CH
F <sub>5</sub> Br		Et	6-C1	H	$C_2F_5$	В	r CH
F <sub>5</sub> Br	i	-Pr	6-C1	H	$C_2F_5$	В	r CH
F <sub>5</sub> Br	ţ.	-Bu	6-C1	H	$C_2F_5$	В	r CH
3F <sub>7</sub> Br	]	Me	6-C1	Н	n-C <sub>3</sub> F	7 B	r CH
3F <sub>7</sub> Br		Et	6-C1	H	n-C <sub>3</sub> F	7 B	r CH
3F <sub>7</sub> Br	i	i-Pr	6-CI	$\mathbf{H}$	n-C <sub>3</sub> F	7 B	r CH
3F <sub>7</sub> Br	t	-Bu	6-C1	Н	n-C <sub>3</sub> F	7 E	r CH
_	$C_3F_7$ Br CH	$C_3F_7$ Br CH $t$	$C_3F_7$ Br CH $t$ -Bu	$C_3F_7$ Br CH $t$ -Bu 6-Cl	$C_3F_7$ Br CH   $t$ -Bu 6-Cl H	$C_3F_7$ Br CH $t$ -Bu 6-Cl H $n$ - $C_3F$	$C_3F_7$ Br CH $t$ -Bu 6-Cl H $n$ - $C_3F_7$ B

<u>R</u> 3	R <sup>4a</sup>	<u>R</u> 4b	<u>R<sup>9</sup></u>	<u>R</u> 6	x	<u>R</u> 3	R <sup>4a</sup>	$\underline{R^{4b}}$	<u>R</u> 9	<u>R</u> 6	X
Me	6-Ме	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	СН	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Ме	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	СН	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
i-Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	СН	i-Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	6-Cl	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Ме	H	Et	Br	CH	Me	6-C1	H	Et	Br	CH
Et	6-Me	Н	Et	Br	CH	Et	6-C1	H	Et	Br	CH
i-Pr	6-Me	Н	Et	Br	CH	i-Pr	6-C1	H	Et	Br	CH
t-Bu	6-Me	H	Et	Br	CH	t-Bu	6-C1	H	Et	Br	CH
Me	6-Ме	$\dot{\mathbf{H}}$	CHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	CHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	CHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	Н	CHF <sub>2</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	н	CHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	CHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Ме	H	CHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	Н	CHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	n-Pr	CF <sub>3</sub>	CH	Me	6-Cl	H	n-Pr	CF <sub>3</sub>	CH
Et	6-Me	$\mathbf{H}$	n-Pr	CF <sub>3</sub>	CH	Et	6-C1	H	n-Pr	CF <sub>3</sub>	CH
i-Pr	6-Me	Н	<i>n</i> -Pr	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-CI	H	n-Pr	CF <sub>3</sub>	CH
t-Bu	6-Me	$\mathbf{H}$	n-Pr	CF <sub>3</sub>	CH	t-Bu	6-Cl	H	n-Pr	CF <sub>3</sub>	CH
Me	6-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	CF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Ме	$\mathbf{H}$	CF <sub>3</sub>	CF <sub>3</sub>	СН	Et	6-C1	H	CF <sub>3</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	Н	CF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	H	CF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	н	<i>i-</i> Pr	CF <sub>3</sub>	CH	Me	6-Cl	Н	i-Pr	CF <sub>3</sub>	CH
Et	6-Me	Н	<i>i</i> -Pr	CF <sub>3</sub>	CH	Et	6-C1	H	i-Pr	CF <sub>3</sub>	CH
i-Pr	6-Me	Н	<i>i</i> -Pr	CF <sub>3</sub>	CH	<i>i</i> -Pr	6-C1	H	i-Pr	CF <sub>3</sub>	CH
<i>t</i> -Bu	6-Me	$\mathbf{H}$	i-Pr	CF <sub>3</sub>	CH	t-Bu	6-C1	н	<i>i-</i> Pr	CF <sub>3</sub>	CH
Me	6-Me	Н	$C_2F_5$	CF <sub>3</sub>	CH	Me	6-C1	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	CH
Et	6-Ме	Н	$C_2F_5$	CF <sub>3</sub>	CH	Et	6-C1	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	CH
i-Pr	6-Me	н	$C_2F_5$	CF <sub>3</sub>	CH	i-Pr	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
<i>t</i> -Bu	6-Ме	H	$C_2F_5$	CF <sub>3</sub>	СН	t-Bu	6-C1	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	CH
Me	6-Me	Н	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH'	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	СН	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
<i>t</i> -Bu	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-Cl	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-Cl	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i</i> -Pr	6-Cl	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
<i>t-</i> Bu	6-Me	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-Cl	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	Et	CF <sub>3</sub>	СН	Ме	6-C1	Н	Et	CF <sub>3</sub>	CH

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<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R<sup>9</sup></u>	<u>R</u> 6	X	<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	X
Et	6-Ме	н	Et	CF <sub>3</sub>	CH	Et	6-C1	H	Et	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Ме	Н	Et	CF <sub>3</sub>	СН	<i>i-</i> Pr	6-C1	Н	Et	CF <sub>3</sub>	CH
<i>t</i> -Bu	6-Me	H	Et	CF <sub>3</sub>	CH	t-Bu	6-C1	H	Et	CF <sub>3</sub>	CH
Me	6-Ме	CI	CHF <sub>2</sub>	F	CH	Me	6-C1	Cl	CHF <sub>2</sub>	F	CH
Et	6-Me	C1	CHF <sub>2</sub>	F	СН	Et	6-C1	CI	CHF <sub>2</sub>	F	CH
<i>i-</i> Pr	6-Ме	Cl	CHF <sub>2</sub>	$\mathbf{F}$	CH	i-Pr	6-C1	Cl	CHF <sub>2</sub>	F	CH
t-Bu	6-Me	Cl	CHF <sub>2</sub>	F	CH	t-Bu	6-C1	C1	CHF <sub>2</sub>	F	CH
Me	6-Me	Cl	n-Pr	· <b>F</b>	CH	Me	6-C1	C1	n-Pr	F	CH
Et	6-Ме	Cl	n-Pr	F	CH	Et	6-C1	Cl	n-Pr	F	CH
i-Pr	6-Me	Cl	n-Pr	F	CH	i-Pr	6-C1	Cl	n-Pr	F	CH
t-Bu	6-Me	Cl	n-Pr	F	CH	t-Bu	6-C1	Cl	n-Pr	F	CH
Me	6-Me	Cl	CF <sub>3</sub>	F	CH	Me	6-C1	C1	CF <sub>3</sub>	F	CH
Et	6-Me	Cl	CF <sub>3</sub>	F	CH	Et	6-C1	Cl	CF <sub>3</sub>	F	CH
i-Pr	6-Me	Cl	CF <sub>3</sub>	F	CH	i-Pr	6-C1	Cl	CF <sub>3</sub>	F	CH
t-Bu	6-Me	C1	CF <sub>3</sub>	F	CH	<i>t</i> -Bu	6-C1	Cl	CF <sub>3</sub>	F	CH
Me	6-Ме	C1	<i>i-</i> Pr	F	CH	Me	6-Cl	C1	i-Pr	F	CH
Et	6-Ме	C1	i-Pr	F	CH	Et	6-Cl	C1	i-Pr	F	CH
<i>i-</i> Pr	6-Ме	C1	<i>i</i> -Pr	F	CH	<i>i-</i> Pr	6-C1	Cl	i-Pr	F	CH
t-Bu	6-Me	Cl	i-Pr	F	CH	<i>t</i> -Bu	6-Cl	Cl	i-Pr	F	CH
Me	6-Me	Cl	$C_2F_5$	$\mathbf{F}$	CH	Me	6-C1	Cl	$C_2F_5$	F	CH
Et	6-Me	Cl	$C_2F_5$	F	CH	Et	6-C1	C1	$C_2F_5$	F	CH
i-Pr	6-Me	Cl	$C_2F_5$	F	CH	<i>i-</i> Pr	6-C1	CI	$C_2F_5$	F	CH
t-Bu	6-Me	Cl	$C_2F_5$	F	CH	t-Bu	6-Cl	Cl	$C_2F_5$	F	CH
Me	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Ме	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i</i> -Pr	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	CH	t-Bu	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH'	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	i-Pr	6-Cl	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	t-Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	Cl ·	Et	F	· CH	Me	6-C1	Cl	Et	F	CH
Et	6-Me	Cl	Et	F	CH	Et	6-C1	Cl	Et	F	CH
i-Pr	6-Me	Cl	Et	F	CH	i-Pr	6-C1	Cl	Et	F	CH
t-Bu	6-Me	C1	Et	F	CH	t-Bu	6-Cl	C1	Et	F	CH
Me	6-Me	Cl	CHF <sub>2</sub>	Cl	CH	Me	6-C1	Cl	CHF <sub>2</sub>	Cl	CH
Et	6-Me	C1	CHF <sub>2</sub>	C1	CH	Et	6-C1	Cl	CHF <sub>2</sub>	Cl	CH

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<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	$\mathbf{x}$	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	$\underline{\mathbf{x}}$
<i>i-</i> Pr	6-Me	Cl	CHF <sub>2</sub>	Cl	CH	<i>i</i> -Pr	6-Cl	C1	CHF <sub>2</sub>	Ci	CH
<i>t-</i> Bu	6-Ме	Cl	CHF <sub>2</sub>	CI	СН	<i>t</i> -Bu	6-C1	Cl	CHF <sub>2</sub>	C1	CH
Me	6-Me	Cl	n-Pr	C1	СН	Me	6-C1	Cl	n-Pr	Cl	CH
Et	6-Me	Cl	n-Pr	Cl	ĊН	Et	6-C1	Cl	n-Pr	C1	CH
<i>i-</i> Pr	6-Me	Cl	n-Pr	CI	СН	<i>i-</i> Pr	6-C1	C1	n-Pr	C1	CH
t-Bu	6-Me	CI	n-Pr	C1	СН	t-Bu	6-C1	Cl	n-Pr	C1	CH
Me	6-Me	Cl	CF <sub>3</sub>	C1	СН	Me	6-C1	Cl	CF <sub>3</sub>	C1	CH
Et	6-Ме	Cl	CF <sub>3</sub>	. C1	CH	Et	6-C1	Cl	CF <sub>3</sub>	Cl	CH
<i>i-</i> Pr	6-Me	Cl	CF <sub>3</sub>	C1	CH	i-Pr	6-C1	Cl	CF <sub>3</sub>	Cl	CH
t-Bu	6-Me	Cl	CF <sub>3</sub>	Cl	СН	t-Bu	6-C1	C1	CF <sub>3</sub>	Cl	CH
Me	6-Ме	Cl	<i>i-</i> Pr	C1	СН	Me	6-C1	C1	i-Pr	Cl	CH
Et	6-Me	Cl	<i>i-</i> Pr	C1	СН	Et	6-C1	Cl	i-Pr	Cl	CH
<i>i</i> -Pr	6-Ме	Cl	<i>i-</i> Pr	Cl	CH	i-Pr	6-Cl	C1	<i>i-</i> Pr	C1	CH
<i>t-</i> Bu	6-Me	Cl	<i>i-</i> Pr	C1	CH	<i>t</i> -Bu	6-C1	CI	<i>i</i> -Pr	Cl	CH
Me	6-Me	Cl	$C_2F_5$	C1	CH	Me	6-C1	C1	$C_2F_5$	Cl	CH
Et	6-Me	Cl	$C_2F_5$	Cl	CH	Et	6-C1	C1	$C_2F_5$	Cl	CH
i-Pr	6-Me	Cl	$C_2F_5$	Cl	CH	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	Cl	CH
t-Bu	6-Me	Cl	$C_2F_5$	Cl	CH	<i>t</i> -Bu	6-C1	C1	$C_2F_5$	Cl	CH
Me	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
<i>i-</i> Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	i-Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	t-Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Me	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
Et	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
i-Pr	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	i-Pr	6-Cl	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CI	CH
t-Bu	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	t-Bu	6-Cl	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
Me	6-Me	Cl	Et	Cl	CH	Me	6-C1	Cl	Et	C1	CH
Et	6-Me	C1	Et	C1	CH	Et	6-CI	C1	Et	Cl	CH
i-Pr	6-Me	Cl	Et	C1	CH	i-Pr	6-Cl	C1	Et	Cl	CH
t-Bu	6-Me	C1	Et	Ci	CH	t-Bu	6-C1	C1	Et	C1	CH
Me	6-Me	Cl	CHF <sub>2</sub>	Br	CH	Me	6-C1	Cl	CHF <sub>2</sub>	Br	CH
Et	6-Me	Cl ·	CHF <sub>2</sub>	Br	· CH	Et	6-Cl	Cl	CHF <sub>2</sub>	Br	CH
i-Pr	6-Me	Cl	$CHF_2$	Br	CH	<i>i-</i> Pr	6-C1	Cl	CHF <sub>2</sub>	Br	CH
t-Bu	6-Me	C1	CHF <sub>2</sub>	Br	CH	t-Bu	6-C1	Cl	CHF <sub>2</sub>	Br	CH
Me	6-Me	C1	n-Pr	Br	CH	Me	6-C1	CI	n-Pr	Br	CH
Et	6-Me	Cl	n-Pr	Br	CH	Et	6-C1	Cl	n-Pr	Br	CH
i-Pr	6-Me	Cl	n-Pr	Br	CH	i-Pr	6-C1	Cl	n-Pr	Br	CH

<u>R</u> 3	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 6	X	<u>R<sup>3</sup></u>	R <sup>4a</sup>	R4b	<u>R</u> 9	<u>R</u> 6	X
<i>t-</i> Bu	6-Me	C1	n-Pr	Br	CH	t-Bu	6-C1	Cl	n-Pr	Br	CH
Me	6-Ме	C1	CF <sub>3</sub>	Br	CH	Me	6-Cl	Cl	CF <sub>3</sub>	Br	CH
Et	6-Ме	CI	CF <sub>3</sub>	Br	CH	Et	6-C1	Cl	CF <sub>3</sub>	Br	CH
<i>i</i> -Pr	6-Me	C1	CF <sub>3</sub>	Br	CH	<i>i</i> -Pr	6-C1	Cl	CF <sub>3</sub>	Br	CH
t-Bu	6-Me	Cl	CF <sub>3</sub>	Br	CH	t-Bu	6-C1	Cl	CF <sub>3</sub>	Br	CH
Me	6-Ме	C1	<i>i</i> -Pr	Br	СН	Me	6-C1	C1	<i>i-</i> Pr	Br	CH
Et	6-Me	Cl	i-Pr	Br	CH	Et	6-C1	C1	i-Pr	Br	CH
<i>i-</i> Pr	6-Me	Cl	<i>i-</i> Pr	Br	CH	i-Pr	6-C1	C1	<i>i-</i> Pr	Br	CH
t-Bu	6-Me	C1	<i>i</i> -Pr	Br	CH	<i>t</i> -Bu	6-C1	C1	i-Pr	Br	CH
Me	6-Me	Cl	$C_2F_5$	Br	CH	Me	6-C1	C1	$C_2F_5$	Br	CH
Et	6-Ме	Ç1	$C_2F_5$	Br	СН	Et	6-C1	C1	$C_2F_5$	Br	CH
i-Pr	6-Ме	Cl .	$C_2F_5$	Br	CH	i-Pr	6-C1	Cl	$C_2F_5$	Br	CH
t-Bu	6-Me	C1	$C_2F_5$	Br	CH	t-Bu	6-C1	Cl	$C_2F_5$	Br	CH
Me	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6 <b>-</b> Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	i-Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	CI	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t-</i> Bu	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	СН	Et	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
i-Pr	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t-</i> Bu	6-CI	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Ме	Cl	Et	Br	CH	Ме	6-C1	Cl	Et	Br	CH
Et	6-Me	C1	Et	Br	CH	Et	6-C1	C1	Et	Br	CH
<i>i-</i> Pr	6-Me	Cl	Et	Br	CH	i-Pr	6-C1	Cl	Et	Br	CH
t-Bu	6-Me	C1	Et	Br	CH	<i>t-</i> Bu	6-C1	Cl	Et	Br	CH
Me	6-Me	CI	CHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-Cl	Cl	CHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	CHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	CI	CHF <sub>2</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	Cl	CHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	CHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	Cl	CHF <sub>2</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	C1	CHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Me	Cl	n-Pr	CF <sub>3</sub>	СН	Me	6-C1	Cl	n-Pr	CF <sub>3</sub>	CH
Et	6-Me	C1	n-Pr	CF <sub>3</sub>	СН	Et	6-C1	C1	n-Pr	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	Cl	n-Pr	CF <sub>3</sub>	СН	<i>i-</i> Pr	6-C1	Cl	n-Pr	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	n-Pr	CF <sub>3</sub>	СН	t-Bu	6-C1	C1	n-Pr	CF <sub>3</sub>	CH
Me	6-Me	Cl	CF <sub>3</sub>	CF <sub>3</sub>	СН	Me	6-C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	CF <sub>3</sub>	CF <sub>3</sub>	СН	Et	6-C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	Cl	CF <sub>3</sub>	CF <sub>3</sub>	СН	<i>i-</i> Pr	6-C1	CI	CF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	Cl	CF <sub>3</sub>	CF <sub>3</sub>	СН	t-Bu	6-C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>	CH

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<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	X
Me	6-Me	C1	<i>i-</i> Pr	CF <sub>3</sub>	CH	Ме	6-C1	Cl	<i>i-</i> Pr	CF <sub>3</sub>	CH
Et	6-Me	Cl	<i>i-</i> Pr	CF <sub>3</sub>	CH	Et	6-Cl	C1	i-Pr	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	CI	i-Pr	CF <sub>3</sub>	CH	i-Pr	6-Cl	Cl	<i>i-</i> Pr	CF <sub>3</sub>	CH
t-Bu.	6-Me	C1	<i>i-</i> Pr	CF <sub>3</sub>	CH	<i>t-</i> Bu	6-C1	Cl	<i>i</i> -Pr	CF <sub>3</sub>	CH
Me	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	CH	Me	6-C1	C1	$C_2F_5$	CF <sub>3</sub>	СН
Et	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	CH	Et	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>	CH
i-Pr	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-Cl	Cl	C <sub>2</sub> F <sub>5</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>	CH
Me	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-Cl	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	Cl	Et	CF <sub>3</sub>	CH	Me	6-C1	C1	Et	CF <sub>3</sub>	CH
Et	6-Me	C1	Et	CF <sub>3</sub>	CH	Et	6-C1	Cl	Et	CF <sub>3</sub>	CH
i-Pr	6-Me	Cl	Et	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	Et	CF <sub>3</sub>	CH
t-Bu	6-Ме	Cl	Et	CF <sub>3</sub>	CH	t-Bu	6-C1	Cl	Et	CF <sub>3</sub>	CH
Me	6-Me	$\mathbf{H}$	CHF <sub>2</sub>	F	CF	Me	6-C1	H	CHF <sub>2</sub>	F	CF
Et	6-Ме	H	CHF <sub>2</sub>	F	CF	Et	6-C1	H	CHF <sub>2</sub>	F	CF
<i>i-</i> Pr	6-Me	H	CHF <sub>2</sub>	F	CF	<i>i-</i> Pr	6-Cl	H	CHF <sub>2</sub>	F	CF
t-Bu	6-Me	H	CHF <sub>2</sub>	F	CF	t-Bu	6-C1	H	CHF <sub>2</sub>	F	CF
Me	6-Me	H	n-Pr	F	CF	Me	6-C1	H	n-Pr	F	CF
Et	6-Ме	H	n-Pr	F	CF	Et	6-C1	H	n-Pr	F	CF
<i>i</i> -Pr	6-Me	H	n-Pr	F'	CF	<i>i-</i> Pr	6-C1	H	n-Pr	F	CF
t-Bu	6-Me	H	n-Pr	F	CF	t-Bu	6-C1	H	n-Pr	F	CF
Me	6-Me	H	CF <sub>3</sub>	F	CF	Me	6-C1	H	CF <sub>3</sub>	F	CF
Et	6-Me	H	CF <sub>3</sub>	F	CF	Et	6-Cl	H	CF <sub>3</sub>	F	CF
<i>i-</i> Pr	6-Me	Η.	CF <sub>3</sub>	F	CF	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub> :	F	CF
t-Bu	6-Me	H	CF <sub>3</sub>	F	'CF	t-Bu	6-C1	H	CF <sub>3</sub>	F	CF
Me	6-Me	H	<i>i-</i> Pr	F	CF	Me	6-C1	H	i-Pr	F	CF
Et	6-Me	H	i-Pr	F	CF	Et	6-C1	H	i-Pr	F	CF
<i>i-</i> Pr	6-Ме	H	<i>i-</i> Pr	F	CF	<i>i</i> -Pr	6-C1	H	i-Pr	F	CF
t-Bu	6-Me	H	<i>i</i> -Pr	F	CF	t-Bu	6-C1	H	i-Pr	F	CF
Me	6-Me	H	$C_2F_5$	F	CF	Me	6-Cl	H	$C_2F_5$	F	CF

<u>R</u> 3	R <sup>4a</sup>	<u>R</u> 4b	<u>R<sup>9</sup></u>	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	R4b	<u>R</u> 9	<u>R</u> 6	<u>X</u>
Et	6-Ме	H	$C_2F_5$	F	CF	Et	6-C1	H	$C_2F_5$	F	CF
<i>i-</i> Pr	6-Me	H	$C_2F_5$	F	CF	<i>i</i> -Pr	6-C1	H	$C_2F_5$	F	CF
<i>t</i> -Bu	6-Me	H	$C_2F_5$	F	CF	t-Bu	6-CI	H	$C_2F_5$	F	CF
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF.	Me	6-C1	Н	n-C <sub>3</sub> F <sub>7</sub>	F	CF
Et	6-Ме	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF
i-Pr	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	<i>i</i> -Pr	6-Cl	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	t-Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF
Me	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Me	6-C1	H	i-C3F7	F	CF
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CF
i-Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Me	6-Me	H	Et	F	CF	Me	6-C1	H	Et	F	CF
Et	6-Me	H	Et	F	CF	Et	6-C1	H	Et	F	CF
<i>i-</i> Pr	6-Ме	H	Et	F	CF	<i>i-</i> Pr	6-C1	H	Et	F	CF
t-Bu	6-Me	H	Et	F	CF	<i>t</i> -Bu	6-C1	H	Et	F	CF
Me	6-Me	H	CHF <sub>2</sub>	Cl	CC1	Me	6-C1	H	CHF <sub>2</sub>	Cl	CC1
Et	6-Me	H	CHF <sub>2</sub>	Cl	CC1	Et	6-C1	H	CHF <sub>2</sub>	Cl	CCl
<i>i-</i> Pr	6-Me	H	CHF <sub>2</sub>	Cl	CCI	i-Pr	6-C1	H	CHF <sub>2</sub>	Cl	CCI
t-Bu	6-Me	H	CHF <sub>2</sub>	Cl	CCI	<i>t</i> -Bu	6-C1	H	CHF <sub>2</sub>	Cl	CCI
Me	6-Me	H	n-Pr	Cl	CCI	Me	6-C1	H	n-Pr	Cl	CCI
Et	6-Me	H	n-Pr	Cl	CCl	Et	6-C1	H	n-Pr	Cl	CC1
<i>i-</i> Pr	6-Me	H	n-Pr	Cl	CCl	<i>i-</i> Pr	6-C1	H	n-Pr	CI	CC1
<i>t</i> -Bu	6-Me	H	n-Pr	Cl	CC1	<i>t-</i> Bu	6-C1	H	n-Pr	Cl	CCI
Me	6-Me	H	CF <sub>3</sub>	C1	CC1	Me	6-C1	H	CF <sub>3</sub>	Cl	CC1
Et	6-Me	H	CF <sub>3</sub>	Cl	CC1	Et	6-C1	H	CF <sub>3</sub>	Cl	CCI
<i>i-</i> Pr	6-Me	H	CF <sub>3</sub>	Cl	CC1	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	Cl	CCI
t-Bu	6-Me	H	CF <sub>3</sub>	Cl	CC1	<i>t-</i> Bu	6-C1	H	CF <sub>3</sub>	Cl	CC1
Me	6-Me	H	<i>i-</i> Pr	C1	CC1	Me	6-C1	H	<i>i</i> -Pr	Ci	CC1
Et	6-Ме	H	<i>i</i> -Pr	Cl	CC1	Et	6-C1	H	<i>i</i> -Pr	C1	CC1
i-Pr	6-Me	H	i-Pr	Cl	CC1	<i>i-</i> Pr	6-C1	H	<i>i</i> -Pr	Cl	CC1
t-Bu	6-Me	H	i-Pr	Cl	CC1	<i>t-</i> Bu	6-C1	H	<i>i-</i> Pr	C1	CC1
Me	6-Me	H	$C_2F_5$	Cl	CC1	Me	6-C1	H	$C_2F_5$	Cl	CC1
Et	6-Me	H ·	$C_2F_5$	Cl	CCl	Et	6-Cl	H	$C_2F_5$	Cl	CC1
<i>i</i> -Pr	6-Me	H	$C_2F_5$	C1	CC1	i-Pr	6-C1	H	$C_2F_5$	Cl	CCl
t-Bu	6-Me	H	$C_2F_5$	Cl	CCI	<i>t</i> -Bu	6-C1	H	$C_2F_5$	Cl	CCI
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CCI	Me	6-Cl	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CCI
Et	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CC1	Et	6-Cl	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CCI

$\mathbb{R}^3$	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	X	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	$\frac{\mathbb{R}^9}{}$	<u>R</u> 6	<u>X</u>
<i>i</i> -Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CC1	i-Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CCI
t-Bu	6-Me	н	n-C <sub>3</sub> F <sub>7</sub>	C1	CC1	t-Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	ĊCI
Me	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CCl	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CCI
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	<b>C</b> 1	CC1	Et	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	C1	CC1
i-Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CI	CCI	i-Pr	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CC1
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CC1	<i>t-</i> Bu	6-C1	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CCI
Me	6-Me	H	Et	Cl	CCI	Me	6-C1	H	Et	C1	CCI
Et	6-Me	Н	Et	Cl	CCI	Et	6-C1	H	Et	Cl	CC1
<i>i-</i> Pr	6-Me	H	Et	C1	CCl	<i>i-</i> Pr	6-C1	H	Et	Cl	CC1
t-Bu	6-Me	Н	Et	Cl	CCl	<i>t-</i> Bu	6-C1	H	Et	Cl	CC1

Table 13

$$R^{4b}$$
 $R^{4a}$ 
 $NH$ 
 $R^{3}$ 

$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	$\underline{\mathbb{R}^3}$	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	$\underline{\mathbb{R}^3}$	<u>R</u> 6	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6
CH <sub>3</sub>	F	CF <sub>3</sub>	Me	C1	CI	F	CF <sub>3</sub>	Me	Cl	Br	F	CF <sub>3</sub>	Me	Cl
CH <sub>3</sub>	F	CF <sub>3</sub>	Et	C1	Cl	F	CF <sub>3</sub>	Et	Cl	Br	F	CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	F	CF <sub>3</sub>	i-Pr	Cl	Cl	F	CF <sub>3</sub>	i-Pr	Cl .	Br	F	CF <sub>3</sub>	i-Pr	Cl
CH <sub>3</sub>	F	CF <sub>3</sub>	t-Bu	C1	Cı	F	CF <sub>3</sub>	t-Bu	C1	Br	F	CF <sub>3</sub>	t-Bu	Cl
CH <sub>3</sub>	F	CF <sub>3</sub>	Me	Br	CI	F	CF <sub>3</sub>	Me	Br	Br	F	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	F	CF <sub>3</sub>	Et	Br	Cl	F	CF <sub>3</sub>	Et	Br	Br	F	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	F	CF <sub>3</sub>	i-Pr	Br	Cl	F	CF <sub>3</sub>	i-Pr	Br	Br	F	CF <sub>3</sub>	<i>i-</i> Pr	Br
CH <sub>3</sub>	F	CF <sub>3</sub>	t-Bu	Br	CI	F	CF <sub>3</sub>	t-Bu	Br	Br	F	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	F	Ci	Me	Cl	Ci	F	C1	Me	C1	Br	F	Cl	Me	C1
CH <sub>3</sub>	F	Cl	Et	Cl	Cl	F	C1	Et	Cl	Br	F	Cl	Et	C1
CH <sub>3</sub>	F	Cl	i-Pr	C1	Cl	$\mathbf{F}$	C1	<i>i</i> -Pr	Cl	Br	F	Cl	i-Pr	C1
CH <sub>3</sub>	F	C1	t-Bu	C1	C1	F	Cl	t-Bu	Cl	Br	F	Cl	t-Bu	Cl
CH <sub>3</sub>	F	Cl	Me	Br	Cl	F	C1	Me	Br	Br	F	Cl	Me	Br
CH <sub>3</sub>	F	Cl	Et	Br	Cl	F	Cl	Et	Br	Br	F	C1	Et	Br

R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	$\underline{\mathbb{R}^3}$	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R<sup>3</sup></u>	<u>R</u> 6
$CH_3$	F	C1	<i>i-</i> Pr	Br	Cl	F	Cl	i-Pr	Br	Br	F	C1	i-Pr	Br
$CH_3$	$\mathbf{F}$	C1	<i>t</i> -Bu	Br	C1	F	Cl	t-Bu	Br	Br	F	Cl	t-Bu	Br
$CH_3$	$\mathbf{F}$	Br	Me	C1	C1	F	Br	Me	Cl	Br	F	Br	Me	Cl
$CH_3$	F	Br	Et	C1	C1	F	Br	Et	Cl	Br	F	Br	Et	C1
CH <sub>3</sub>	F	Br	<i>i-</i> Pr	Cl	Cl	F	Br	i-Pr	Cl	Br	F	Br	i-Pr	Cl
$CH_3$	F	Br	t-Bu	C1	C1	F	Br	t-Bu	Cl	Br	F	Br	t-Bu	C1
$CH_3$	F	Br	Me	Br	C1	F	Br	Me	Br	Br	F	Br	Me	Br
$CH_3$	F	Br	Et	Br	C1	F	Br	Et	Br	Br	F	Br	Et	Br
$CH_3$	F	Br	<i>i-</i> Pr	Br	C1	F	Br	i-Pr	Br	Br	F	Br	<i>i-</i> Pr	Br
CH <sub>3</sub>	$\mathbf{F}$	Br	t-Bu	Br	Cl	F	Br	t-Bu	Br	Br	$\mathbf{F}$	Br	t-Bu	Br
CH <sub>3</sub>	Cl	CF <sub>3</sub>	Me	C1	C1	C1	$CF_3$	Me	Cl	Br	C1	CF <sub>3</sub>	Me	Cl
$CH_3$	C1	CF <sub>3</sub>	Et	Cl	Cl	C1	CF <sub>3</sub>	Eŧ	C1	Br	C1	CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	C1	CF <sub>3</sub>	<i>i-</i> Pr	Cl	Cl	C1	CF <sub>3</sub>	i-Pr	Cl	Br	Cl	CF <sub>3</sub>	i-Pr	Cl
$CH_3$	C1	CF <sub>3</sub>	t-Bu	C1	Cl	Cl	CF <sub>3</sub>	t-Bu	Cl	Br	Cl	CF <sub>3</sub>	t-Bu	C1
$CH_3$	C1	CF <sub>3</sub>	Me	Br	C1	C1	$CF_3$	Me	Br	Br	C1	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	Cl	CF <sub>3</sub>	Et	Br	Cl	C1	CF <sub>3</sub>	Et	Br	Br	Cl	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	C1	$CF_3$	i-Pr	Br	C1	C1	CF <sub>3</sub>	i-Pr	Br	Br	C1	CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	Cl	CF <sub>3</sub>	t-Bu	Br	Cl	C1	CF <sub>3</sub>	t-Bu	Br	Br	C1	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	Cl	Cl	Me	C1	Cl	C1	C1	Me	C1	Br	C1	C1	Me	C1
$CH_3$	Cl	C1	Et	Cl	Cl	C1	C1	Et	C1	Br	Cl	C1	Et	C1
$CH_3$	C1	Cl	i-Pr	Cl	Cl	Cl	Cl	i-Pr	Cl	Br	C1	Cl	<i>i-</i> Pr	C1
$CH_3$	Cl	C1	t-Bu	Cl	Cl	C1	Cl	t-Bu	Cl	Br	C1	C1	t-Bu	Cl
CH <sub>3</sub>	C1	C1	Me	Br	C1	C1	C1	Me	Br	Br	Cl	C1	Me	Br
CH <sub>3</sub>	C1	Cl	Et	Br	Cl	C1	C1	Et	Br	Br	C1	Cl	Et	Br
$CH_3$	C1	C1	<i>i-</i> Pr	Br	C1	Cl	Cl	i-Pr	Br	Br	C1	Cl	<i>i-</i> Pr	Br
$CH_3$	C1	C1	t-Bu	Br	Cl	Cl	Cl	t-Bu	Br	Br	Cl	Cl	t-Bu	Br
$CH_3$	C1	Br	Me	C1	Cl	Cl	Br	Me	Cl	Br	Cl	Br	Me	C1
$CH_3$	C1	Br	Et	Cl	Cl	C1	Br	Et	Cl	Br	C1	Br	Et	C1
$CH_3$	C1	Br	<i>i-</i> Pr	Cl	Cl	Cl	Br	i-Pr	Cl	Br	C1	Br	i-Pr	C1
$CH_3$	Cl	Br	t-Bu	Cl	Cl	C1	Br	t-Bu	Cl	Br	C1	Br	t-Bu	Cl
$CH_3$	C1	Br	Me	Br	C1	C1	Br	Me	Br	Br	C1	Br	Me	Br
$CH_3$	C1	Br	Et	Br	Cl	C1	Br	Et	Br	Br	Cl	Br	Et	Br
CH <sub>3</sub>	Cl	Br	i-Pr	Br	Cl	Cl	Br	i-Pr	Br	Br	Cl	Br	i-Pr	Br
CH <sub>3</sub>	C1	Br	t-Bu	Br	Cl	C1	Br	t-Bu	Br	Br	C1	Br	t-Bu	Br
СН3	Br	CF <sub>3</sub>	Me	Cl	Cl	Br	CF <sub>3</sub>	Me	C1	Br	Br	CF <sub>3</sub>	Me	Cl
$CH_3$	Br	CF <sub>3</sub>	Et	Cl	Cl	Br	CF <sub>3</sub>	Et	C1	Br	Br	CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	Br	CF <sub>3</sub>	<i>i-</i> Pr	C1	C1	Br	CF <sub>3</sub>	<i>i-</i> Pr	Cl	Br	Br	CF <sub>3</sub>	<i>i</i> -Pr	Cl

<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6
CH <sub>3</sub>	Br	CF <sub>3</sub>	t-Bu	Cl	C1	Br	CF <sub>3</sub>	t-Bu	Cl	Br	Br	CF <sub>3</sub>	t-Bu	C1
CH <sub>3</sub>	Br	CF <sub>3</sub>	Me	Br	Cl	Br	CF <sub>3</sub>	Me	Br	Br	Br	CF <sub>3</sub>	Me	Br
$CH_3$	Br	CF <sub>3</sub>	Et	Br	Cl	Br	CF <sub>3</sub>	Et	Br	Br	Br	CF <sub>3</sub>	Et	Br
$CH_3$	Br	CF <sub>3</sub>	<i>i</i> -Pr	Br	CI	Br	CF <sub>3</sub>	<i>i-</i> Pr	Br	Br	Br	CF <sub>3</sub>	<i>i-</i> Pr	Br
CH <sub>3</sub>	Br	CF <sub>3</sub>	t-Bu	Br	Cl	Br	CF <sub>3</sub>	t-Bu	Br	Br	Br	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	Br	Cl	Me	C1	C1	Br	C1	Me	Cl	Br	Br	C1	Me	Cl
$CH_3$	Br	Cl -	Et	C1	Cl	Br	Cl	Et	Cl	Br	Br	Cl	Et	Cl
$CH_3$	Br	C1	<i>i-</i> Pr	Cl	C1	Br	C1	i-Pr	Cl	Br	Br	C1	<i>i-</i> Pr	C1
CH <sub>3</sub>	Br	C1	t-Bu	Cl	Cl	Br	C1	t-Bu	C1	Br	Br	Cl	t-Bu	C1
$CH_3$	Br	C1	Me	Br	CI	$\mathbf{H}$	$CF_3$	Me	Cl	Br	Br	C1	Me	Br
$CH_3$	Br	C1	Et	Br	C1	H	$CF_3$	Et	C1	Br	Br	C1	Et	Br
CH <sub>3</sub>	Br	C1	<i>i-</i> Pr	Br	C1	H	CF <sub>3</sub>	i-Pr	C1	Br	Br	C1	i-Pr	Br
$CH_3$	Br	C1	t-Bu	Br	Cl	H	CF <sub>3</sub>	t-Bu	Cl	Br	Br	Cl	t-Bu	Br
$CH_3$	Br	Br	Me	Cl	Cl	H	$CF_3$	Me	Br	Br	Br	Br	Me	Cl
$\text{CH}_3$	Br	Br	Et	Cl	Cl	H	$CF_3$	Et	Br	Br	Br	Br	Et	C1
$CH_3$	Br	Br	<i>i-</i> Pr	C1	Cl	H	$CF_3$	i-Pr	Br	Br	Br	Br	<i>i-</i> Pr	Cl
$CH_3$	Br	Br	t-Bu	Cl	C1 <sub>.</sub>	H	CF <sub>3</sub>	t-Bu	Br	Br	Br	Br	t-Bu	Cl
$CH_3$	Br	Br	Me	Br	C1	H	Cl	Me	Cl	Br	Br	Br	Me	Br
$CH_3$	Br	Br	Et	Br	C1	H	Cl	Et	Cl	Br	Br	Br	Et	Br
CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	Br	Cl	H	C1	<i>i-</i> Pr	C1	Br	Br	Br	i-Pr	Br
CH <sub>3</sub>	Br	Br	t-Bu	Br	Cl	H	C1	t-Bu	C1	Br	Br	Br	t-Bu	Br
CH <sub>3</sub>	I	CF <sub>3</sub>	Me	C1	C1	H	C1	Me	Br	Br	I	CF <sub>3</sub>	Me	C1
CH <sub>3</sub>	1	CF <sub>3</sub>	Et	C1	Cl	H	C1	Et	Br	Br	I	CF <sub>3</sub>	Et	C1
CH <sub>3</sub>	Ι	CF <sub>3</sub>	i-Pr	Cl	Cl	H	C1	i-Pr	Br	Br	I	CF <sub>3</sub>	i-Pr	C1
CH <sub>3</sub>	I	CF <sub>3</sub>	<i>t</i> -Bu	Cl	Cl	H	C1	t-Bu	Br	Br	I	CF <sub>3</sub>	t-Bu	Cl
CH <sub>3</sub>	Ι	CF <sub>3</sub>	Me	Br	Cl	H	Br	Me	Cl	Br	Ι	CF <sub>3</sub>	Me	Br
$CH_3$	1	CF <sub>3</sub>	Et	Br	C1	H	Br	Et	C1	Br	I	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	Ι	CF <sub>3</sub>	<i>i-</i> Pr	Br	C1	H	Br	<i>i-</i> Pr	C1	Br	I	CF <sub>3</sub>	<i>i</i> -Pr	Br
CH <sub>3</sub>	Ι	CF <sub>3</sub>	t-Bu	Br	Cl	H	Br	t-Bu	C1	Br	1	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	Ι	C1	Me	C1	<b>C</b> 1	H	Br	Me	Br	Br	I	Cl	Me	C1
CH <sub>3</sub>	Ι	Cl	Et	C1	CI	H	Br	Et	Br	Br	Ι	Cl	Et	C1
CH <sub>3</sub>	Ι	Cl	<i>i-</i> Pr	Cl	Cl	H	Br	i-Pr	Br	Br	I	Cl	<i>i-</i> Pr	Cl
CH <sub>3</sub>	Ι	Cl	t-Bu	Cl	C1	H	Br	t-Bu	Br	Br	I	Cl	t-Bu	C1
CH <sub>3</sub>	Ι	C1	Me	Br	C1	Br	C1	Me	Br	Br	I	Cl	Me	Br
CH <sub>3</sub>	Ι	Cl	Et	Br	Cl	Br	C1	Et	Br	Br	Ι	C1	Et	Br
CH <sub>3</sub>	I	Cl	i-Pr	Br	C1	Br	Cl	<i>i-</i> Pr	Br	Br	Ι	C1	<i>i-</i> Pr	Br
$CH_3$	I	C1	t-Bu	Br	Cl	Br	C1	t-Bu	Br	Br	I	C1	t-Bu	Br

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<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 3	<u>R</u> 6
$CH_3$	1	Br	Me	C1	C1	Br	Br	Me	Cl	Br	I	Br	Me	C1
$CH_3$	1	Br	Et	C1	Cl	Br	$\mathbf{Br}$	Et	Cl	Br	I	Br	Et	C1
CH <sub>3</sub>	1	Br	i-Pr	Cl	Cl	Br	Br	<i>i-</i> Pr	Cl	Br	I	Br	<i>i-</i> Pr	Cl
CH <sub>3</sub>	1	Br	t-Bu	C1	Cl	Br	Br	t-Bu	Cl	Br	Ι	Br	t-Bu	Cl
$CH_3$	1	Br	Me	Br	Cl	Br	Br	Me	Br	Br	I	Br	Me	Br
$CH_3$	1	Br	Et	Br	C1	Br	Br	Et	Br	Br	I	Br	Et	Br
$CH_3$	I	Br	i-Pr	Br	Cl	Br	Br	<i>i-</i> Pr	Br	Br	Ι	Br	i-Pr	Br
$CH_3$	Ι	Br	t-Bu	Br	Cl	Br	Br	t-Bu	Br	Br	Ι	Br	t-Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	$CF_3$	Me	Cl	Cl	I	$CF_3$	Me	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	Me	Cl
CH <sub>3</sub>	CF <sub>3</sub>	$CF_3$	Et	Cl	Cl	Ι	$CF_3$	Et	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	<i>i</i> -Pr	C1	Cl	I	$CF_3$	<i>i-</i> Pr	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	Cl
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	C1	Cl	I	$CF_3$	t-Bu	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	C1
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Me	Br	Cl	I	$CF_3$	Me	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br	Cl	I	$CF_3$	Et	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	i-Pr	Br	Cl	Ι	CF <sub>3</sub>	<i>i</i> -Pr	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br	Cl	1	CF <sub>3</sub>	t-Bu	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	Cl	Cl	Ι	Cl	Me	C1	Br	CF <sub>3</sub>	Cl	Me	Cl
CH <sub>3</sub>	CF <sub>3</sub>	C1	Et	Cl	Cl	I	Cl	Et	C1	Br	CF <sub>3</sub>	C1	Et	Cl
CH <sub>3</sub>	CF <sub>3</sub>	C1	i-Pr	Cl	C1	I	Cl	i-Pr	Cl	Br	CF <sub>3</sub>	C1	i-Pr	Cl
CH <sub>3</sub>	CF <sub>3</sub>	C1	t-Bu	Cl	C1	Ι	Cl	t-Bu	Cl	Br	CF <sub>3</sub>	Cl	t-Bu	C1
CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	Br	Cl	I	Cl	Me	Br	Br	CF <sub>3</sub>	C1	Me	Br
CH <sub>3</sub>	CF <sub>3</sub>	C1	Et	Br	C1	Ι	Cl	Et	Br	Br	CF <sub>3</sub>	C1	Et	Br
CH <sub>3</sub>	CF <sub>3</sub>	C1	<i>i-</i> Pr	Br	C1	I	Cl	i-Pr	Br	Br	CF <sub>3</sub>	Cl	<i>i-</i> Pr	Br
CH <sub>3</sub>	CF <sub>3</sub>	Cl	t-Bu	Br	Cl	Ι	C1	t-Bu	Br	Br	CF <sub>3</sub>	CI	t-Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	C1	C1	Ι	Br	Me	Cl	Br	CF <sub>3</sub>	Br	Me	C1
CH <sub>3</sub>	•	Br	Et	Cl	Cl	Ι	Br	Et	Cl	Br	CF <sub>3</sub>	Br	Et	Cl
CH <sub>3</sub>	_	Br	<i>i-</i> Pr	Cl	Cl	I	Br	<i>i-</i> Pr	Cl	Br	CF <sub>3</sub>	Br	<i>i-</i> Pr	Cl
CH <sub>3</sub>	-	Br	t-Bu	Cl	C1	I	Br	t-Bu	Cl	Br	CF <sub>3</sub>	Br	t-Bu	Cl
CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	Br	C1	I	Br	Me	Br	Br	CF <sub>3</sub>	Br	Me	Br
	CF <sub>3</sub>	Br	Et	Br	Cl	Ι	Br	Et	Br	Br	CF <sub>3</sub>	Br	Et	Br
CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	Br	C1	Ι	Br	<i>i-</i> Pr	Br	Br	CF <sub>3</sub>	Br	<i>i-</i> Pr	Br
CH <sub>3</sub>	-	Br	t-Bu	Br	C1	I	Br	t-Bu	Br	Br	CF <sub>3</sub>	Br	t-Bu	Br
CH <sub>3</sub>	C1	C1	n-Pr	Cl	C1	-	CF <sub>3</sub>	Me	C1	Ι	C1	CF <sub>3</sub>	Me	Cl
CH <sub>3</sub>	C1	C1	<i>n-</i> Bu	Cl	C1	CF <sub>3</sub>	-	Et	Cl	Ι	Cl	CF <sub>3</sub>	Et	C1
CH <sub>3</sub>	Cl	Cl	s-Bu	Cl	C1	-	CF <sub>3</sub>		Cl	Ι	Cl	CF <sub>3</sub>	<i>i-</i> Pr	Cl
CH <sub>3</sub>	C1	Cl	<i>i</i> -Bu	C1	Cl	_	CF <sub>3</sub>		Cl	Ι	C1	CF <sub>3</sub>	t-Bu	Cl
CH <sub>3</sub>	H	CF <sub>3</sub>	Me	C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>	Me	Br	Ι	Cl	CF <sub>3</sub>	Me	Br

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Table 14

$\underline{\mathbb{R}^3}$	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 7	<u>R</u> 6
Me	3-Me	$\mathbf{H}$	CF <sub>3</sub>	F	Me	3-C1	H	CF <sub>3</sub>	F
Et	3-Me	5-Me	OCF <sub>3</sub>	F	Et	3-C1	5-Me	OCF <sub>3</sub>	F

<u>R</u> 3	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 6
<i>i-</i> Pr	3-Me	H	OCF <sub>3</sub>	F	<i>i</i> -Pr	3-Cl	H	OCF <sub>3</sub>	F
t-Bu	3-Ме	5-C1	Br	F	<i>t-</i> Bu	3-C1	5-Cl	Br	F
Me	3-Ме	Н	Br	F	Me	3-C1	Н	Br	F
Et	3-Ме	Н	Cl	F	Et	3-C1	Н	C1	F
<i>i-</i> Pr	3-Ме	5-Br	Cl	F	<i>i-</i> Pr	3-C1	5-Br	C1	F
t-Bu	3-Ме	Н	I	F	<i>t-</i> Bu	3-C1	Н	I	F
propargyl	3-Ме	Н	CF <sub>3</sub>	F	propargyl	3-C1	Н	CF3	F
c-propyl	3-Ме	Н	OCF <sub>3</sub>	F	c-propyl	3-C1	H	OCF <sub>3</sub>	F
<i>i-</i> Pr	3-Me	5-C1	CF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	F
t-Bu	3-Ме	Н	SCF <sub>3</sub>	F	t-Bu	3-C1	Н	SCF <sub>3</sub>	F
Me	3-Ме	5-C1	SCHF <sub>2</sub>	F	Me	3-C1	5-C1	SCHF <sub>2</sub>	F
Et	3-Ме	H	OCHF <sub>2</sub>	F	Et	3-C1	Н	OCHF <sub>2</sub>	F
<i>i-</i> Pr	3-Ме	H	CF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	F
<i>t</i> -Bu	3-Me	H	$C_2F_5$	F	<i>t-</i> Bu	3-C1	H	$C_2F_5$	F
propargyl	3-Me	H	$C_2F_5$	$\mathbf{F}$	propargyl	3-Cl	H	$C_2F_5$	F
c-propyl	3-Me	H	CF <sub>3</sub>	F	<i>c</i> -propyl	3-C1	H	CF <sub>3</sub>	F
i-Pr	3-Me	H	Me	F	<i>i-</i> Pr	3-C1	H	Me	F
t-Bu	3-Ме	5-Br	CN	F	<i>t-</i> Bu	3-C1	5-Br	CN	F
Me	3-Ме	H	CF <sub>3</sub>	C1	Ме	3-C1	H	CF <sub>3</sub>	C1
Et	3-Me	5-Me	OCF <sub>3</sub>	C1	Et	3-C1	5-Me	OCF <sub>3</sub>	C1
<i>i-</i> Pr	3-Ме	H	OCF <sub>3</sub>	C1	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	C1
t-Bu	3-Me	5-C1	Br	C1	<i>t</i> -Bu	3-C1	5-C1	Br	C1
Me	3-Me	H	Br	Cl	Me	3-C1	H	Br	C1
Et	3-Me	H	C1	C1	Et	3-C1	Н	Cl	C1
i-Pr	3-Me	5-Br	Cl	Cl	<i>i-</i> Pr	3-C1	5-Br	C1	C1
t-Bu	3-Me	H	I	C1	<i>t-</i> Bu	3-C1	H	I	C1
propargyl	3-Me	$\mathbf{H}$	CF <sub>3</sub>	C1	propargyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	C1
c-propyl	3-Me	H	OCF <sub>3</sub>	C1	c-propyl	3-C1	H	OCF <sub>3</sub>	C1
i-Pr	3-Me	5-Cl	CF <sub>3</sub>	C1	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	Cl
t-Bu	3-Me	$\mathbf{H}$	SCF <sub>3</sub>	Cl	t-Bu	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	Cl
Me	3-Me	5-C1	SCHF <sub>2</sub>	Cl	Me	3-C1	5-C1	SCHF <sub>2</sub>	C1
Et	3-Me	H	OCHF <sub>2</sub>	Cl	Et	3-C1	$\mathbf{H}$	OCHF <sub>2</sub>	C1
i-Pr	3-Me	H	CF <sub>3</sub>	Cl	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	C1
t-Bu	3-Me	H	$C_2F_5$	Cl	<i>t</i> -Bu	3-C1	H	$C_2F_5$	C1
propargyl	3-Me	H	$C_2F_5$	Cl	propargyl	3-C1	H	$C_2F_5$	C1
c-propyl	3-Me	H	CF <sub>3</sub>	C1	c-propyl	3-C1	H	CF <sub>3</sub>	C1
i-Pr	3-Me	Н	Me	CI	<i>i-</i> Pr	3-C1	Н	Me	CI

<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	$\underline{\mathbf{R}^7}$	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	R4b	<u>R</u> 7	<u>R</u> 6
<i>t</i> -Bu	3-Ме	5-Br	CN	Cl	<i>t-</i> Bu	3-C1	5-Br	CN	<b>C</b> 1
Me	3-Ме	H	CF <sub>3</sub>	CF <sub>3</sub>	Ме	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
Et	3-Me	5-Me	OCF <sub>3</sub>	CF <sub>3</sub>	Et	3-C1	5-Me	OCF <sub>3</sub>	CF <sub>3</sub>
<i>i</i> -Pr	3-Me	Н	OCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	н	OCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Ме	5-C1	Br	CF <sub>3</sub>	<i>t-</i> Bu	3-C1	5-C1	Br	CF <sub>3</sub>
Me	3-Ме	Н	Br	CF <sub>3</sub>	Ме	3-C1	H	Br	CF <sub>3</sub>
Et	3-Ме	H	C1	CF <sub>3</sub>	Et	3-C1	H	Cl	CF <sub>3</sub>
i-Pr	3-Me	5-Br	C1	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-Br	Cl	CF <sub>3</sub>
t-Bu	3-Me	$\mathbf{H}$	I	CF <sub>3</sub>	<i>t-</i> Bu	3-C1	H	I	CF <sub>3</sub>
propargyl	3-Ме	H	CF <sub>3</sub>	CF <sub>3</sub>	propargyl	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
c-propyl	3-Ме	H	OCF <sub>3</sub>	CF <sub>3</sub>	c-propyl	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>
i-Pr	3-Me	5-C1	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	t-Bu	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
Me	3-Me	5-C1	SCHF <sub>2</sub>	CF <sub>3</sub>	Me	3-C1	5-C1	SCHF <sub>2</sub>	CF <sub>3</sub>
Et	3-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	3-C1	H	$OCHF_2$	CF <sub>3</sub>
<i>i-</i> Pr	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	i-Pr	3-C1	$\mathbf{H}$	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Me	H	$C_2F_5$	CF <sub>3</sub>	<i>t</i> -Bu	3-C1	H	$C_2F_5$	CF <sub>3</sub>
propargyl	3-Me	H	$C_2F_5$	CF <sub>3</sub>	propargyl	3-C1	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>
c-propyl	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	c-propyl	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
<i>i</i> -Pr	3-Me	H	Me	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	H	Me	CF <sub>3</sub>
t-Bu	3-Ме	5-Br	CN	CF <sub>3</sub>	<i>t</i> -Bu	3-C1	5-Br	CN	CF <sub>3</sub>
Me	3-Ме	H	CF <sub>3</sub>	Br	Ме	3-C1	H	CF <sub>3</sub>	Br
Et	3-Me	5-Me	OCF <sub>3</sub>	Br	Et	3-C1	5-Me	OCF <sub>3</sub>	Br
<i>i-</i> Pr	3-Me	H	OCF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	Br
t-Bu	3-Me	5-C1	Br	Br	<i>t</i> -Bu	3-C1	5-C1	Br	Br
Me	3-Me	H	Br	Br	Ме	3-C1	H	Br	Br
Et	3-Ме	H	C1	Br	Et	3-C1	H	Cl	Br
i-Pr	3-Me	5-Br	C1	Br	i-Pr	3-C1	5-Br	C1	Br
t-Bu	3-Ме	H	Ι	Br	<i>t-</i> Bu	3-C1	Н	Ι	Br
propargyl	3-Me	H	CF <sub>3</sub>	Br	propargyl	3-C1	H	CF <sub>3</sub>	Br
c-propyl	3-Me	H	OCF <sub>3</sub>	Br	c-propyl	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	Br
i-Pr	3-Me	5-C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	Br
t-Bu	3-Me	H	SCF <sub>3</sub>	Br	t-Bu	3-Cl	H	SCF <sub>3</sub>	Br
Me	3-Me	5-C1	SCHF <sub>2</sub>	Br	Me	3-C1	5-C1	SCHF <sub>2</sub>	Br
Et	3-Me	H	OCHF <sub>2</sub>	Br	Et	3-C1	H	OCHF <sub>2</sub>	Br
<i>i-</i> Pr	3-Ме	H	CF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	Br
t-Bu	3-Ме	H	$C_2F_5$	Br	t-Bu	3-C1	H	$C_2F_5$	Br

<u>R</u> 3	<u>R<sup>4</sup>a</u>	R4b	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
propargyl	3-Me	H	$C_2F_5$	Br	propargyl	3-C1	H	$C_2F_5$	Br
c-propyl	3-Me	H	CF <sub>3</sub>	Br	c-propyl	3-C1	H	CF <sub>3</sub>	Br
i-Pr	3-Ме	H	Me	Br	<i>i-</i> Pr	3-C1	H	Me	Br
<i>t</i> -Bu	3-Ме	5-Br	CN	Br	<i>t-</i> Bu	3-C1	5-Br	CN	Br
Me	6-Ме	$\mathbf{H}$	$OCHF_2$	F	Me	6-C1	Н	OCHF <sub>2</sub>	F
Et	6-Ме	H	$OCHF_2$	F	Et	6-C1	H	$OCHF_2$	F
<i>i-</i> Pr	6-Me	H	OCHF <sub>2</sub>	F	<i>i</i> -Pr	6-C1	H	$OCHF_2$	F
t-Bu	6-Ме	$\mathbf{H}$	$OCHF_2$	F	t-Bu	6-C1	H	$OCHF_2$	F
Me	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	F	Me	6-C1	H	SCHF <sub>2</sub>	F
Et	6-Ме	$\mathbf{H}$	SCHF <sub>2</sub>	F	Et	6-C1	H	SCHF <sub>2</sub>	F
i-Pr	6-Ме	$\mathbf{H}$	SCHF <sub>2</sub>	$\mathbf{F}$	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	F
t-Bu	6-Ме	$\mathbf{H}$	SCHF <sub>2</sub>	F	<i>t</i> -Bu	6-C1	H	$SCHF_2$	F
Me	6-Me	H	OCF <sub>3</sub>	F	Ме	6-C1	H	OCF <sub>3</sub>	F
Et	6-Ме	$\mathbf{H}$	OCF <sub>3</sub>	F	Et	6-C1	H	OCF <sub>3</sub>	F
i-Pr	6-Me	H	OCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	F
t-Bu	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	<i>t-</i> Bu	6-Cl	Н	OCF <sub>3</sub>	F
Me	6-Me	H	SCF <sub>3</sub>	F	Ме	6-C1	H	SCF <sub>3</sub>	F
Et	6-Me	H	SCF <sub>3</sub>	$\mathbf{F}$	Et	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	F
i-Pr	6-Ме	$\mathbf{H}$	SCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	F
t-Bu	6-Me	H	SCF <sub>3</sub>	F	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	F
Me	6-Me	Η ,	$C_2F_5$	F	Me	6-C1	$\mathbf{H}$	$C_2F_5$	F
Et	6-Me	$\mathbf{H}$	$C_2F_5$	F	Et	6-C1	$\mathbf{H}$	$C_2F_5$	F
i-Pr	6-Me	$\mathbf{H}$	$C_2F_5$	F	<i>i</i> -Pr	6-C1	H.	$C_2F_5$	F
t-Bu	6-Me	$\mathbf{H}$	$C_2F_5$	F	<i>t</i> -Bu	6-C1	H	$C_2F_5$	F
Me	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F
<i>i</i> -Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F
i-Pr	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	t-Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	H	CN	F	Me	6-C1	H	CN	F
Et	6-Me	H	CN	F	Et	6-C1	H	CN	F
<i>i-</i> Pr	6-Me	H	CN	F	<i>i-</i> Pr	6-C1	H	CN	F
t-Bu	6-Me	H	CN	F	<i>t-</i> Bu	6-C1	H	CN	F
Me	6-Ме	H	OCHF <sub>2</sub>	C1	Me	6-C1	Н	OCHF <sub>2</sub>	Cl

<u>R</u> 3	<u>R<sup>4</sup>a</u>	R4b	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	R4b	<u>R</u> 7	<u>R</u> 6
Et	6-Ме	Н	OCHF <sub>2</sub>	Cl	Et	6-C1	Н	OCHF <sub>2</sub>	Cl
i-Pr	6-Ме	Н	OCHF <sub>2</sub>	Cl	<i>i-</i> Pr	6-C1	Н	OCHF <sub>2</sub>	Cl
t-Bu	6-Ме	H	OCHF <sub>2</sub>	Cl	<i>t-</i> Bu	6-C1	H	OCHF <sub>2</sub>	C1
Me	6-Ме	H	SCHF <sub>2</sub>	Cl	Ме	6-C1	Н	SCHF <sub>2</sub>	C1
Et	6-Ме	Н	SCHF <sub>2</sub>	C1	Et	6-C1	H	SCHF <sub>2</sub>	Cl
i-Pr	6-Ме	H	SCHF <sub>2</sub>	C1	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	C1
t-Bu	6-Ме	H	SCHF <sub>2</sub>	C1	t-Bu	6-C1	H	$SCHF_2$	Cl
Me	6-Me	H	OCF <sub>3</sub>	Cl	Ме	6-C1	H	OCF <sub>3</sub>	Cl
Et	6-Ме	H	OCF <sub>3</sub>	Cl	Et	6-C1	H	OCF <sub>3</sub>	Cl
i-Pr	6-Me	H	OCF <sub>3</sub>	C1	i-Pr	6-C1	H	OCF <sub>3</sub>	Cl
t-Bu	6-Ме	H	OCF <sub>3</sub>	Cl	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	Cl
Me	6-Me	H	SCF <sub>3</sub>	C1	Ме	6-C1	H	SCF <sub>3</sub>	C1
Et	6-Ме	H	SCF <sub>3</sub>	Cl	Et	6-C1	H	SCF <sub>3</sub>	Cl
i-Pr	6-Me	H	SCF <sub>3</sub>	C1	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	C1
t-Bu	6-Me	H	SCF <sub>3</sub>	Cl	<i>t-</i> Bu	6-C1	H	SCF <sub>3</sub>	C1
Me	6-Ме	H	$C_2F_5$	Cl	Me	6-C1	Н	$C_2F_5$	Cl
Et	6-Me	H	$C_2F_5$	C1	Et	6-C1	H	$C_2F_5$	C1
i-Pr	6-Me	H	$C_2F_5$	Cl	<i>i-</i> Pr	6-C1	H	$C_2F_5$	C1
t-Bu	6-Me	H	$C_2F_5$	C1	<i>t-</i> Bu	6-C1	H	$C_2F_5$	C1
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl
i-Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	<i>t</i> -Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Cl
<i>i-</i> Pr	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	CI	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	<i>t</i> -Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Me	H	CN	C1	Ме	6-C1	$\mathbf{H}$	CN	Cl
Et	6-Me	$\mathbf{H}$	CN	Cl	Et	6-C1	H	CN	C1
i-Pr	6-Me	H	CN	Cl	<i>i-</i> Pr	6-Cl	$\mathbf{H}$	CN	C1
t-Bu	6-Me	H	CN	C1	<i>t-</i> Bu	6-Cl	$\mathbf{H}$	CN	Cl
Me	6-Me	H	OCHF <sub>2</sub>	Br	Ме	6-C1	H	OCHF <sub>2</sub>	Br
Et	6-Me	H	OCHF <sub>2</sub>	Br	Et	6-C1	H	OCHF <sub>2</sub>	Br
i-Pr	6-Me	H	OCHF <sub>2</sub>	Br	<i>i-</i> Pr	6-Cl	H	OCHF <sub>2</sub>	Br
t-Bu	6-Ме	H	OCHF <sub>2</sub>	Br	<i>t-</i> Bu	6-Cl	H	OCHF <sub>2</sub>	Br
Me	6-Ме	H	SCHF <sub>2</sub>	Br	Me	6-C1	H	SCHF <sub>2</sub>	Br
Et	6-Me	H	SCHF <sub>2</sub>	Br	Et	6-Cl	$\mathbf{H}$	SCHF <sub>2</sub>	Br

					.,				
<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R</u> 4a	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
<i>i-</i> Pr	6-Me	H	SCHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	Br
t-Bu	6-Me	H	$SCHF_2$	Br	<i>t</i> -Bu	6-C1	H	SCHF <sub>2</sub>	Br
Me	6-Ме	Н	OCF <sub>3</sub>	Br	Me	6-C1	H	OCF <sub>3</sub>	Br
Et	6-Ме	H	OCF <sub>3</sub>	Br	Et	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	Br
i-Pr	6-Ме	H	OCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	Br
t-Bu	6-Me	H	OCF <sub>3</sub>	Br	t-Bu	6-C1	H	OCF <sub>3</sub>	Br
Me	6-Me	Н	SCF <sub>3</sub>	Br	Me	6-C1	H	SCF <sub>3</sub>	Br
Et	6-Ме	Н	SCF <sub>3</sub>	Br	Et	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	Br
<i>i-</i> Pr	6-Me	Н	SCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	Br
t-Bu	6-Me	Н	SCF <sub>3</sub>	Br	t-Bu	6-C1	H	SCF <sub>3</sub>	Br
Me	6-Ме	H	$C_2F_5$	Br	Me	6-C1	$\mathbf{H}$	$C_2F_5$	Br
Et	6-Ме	H	$C_2F_5$	Br	Et	6-C1	H	$C_2F_5$	Br
i-Pr	6-Ме	Н	$C_2F_5$	Br	<i>i-</i> Pr	6-C1	H	$C_2F_5$	Br
t-Bu	6-Me	H	$C_2F_5$	Br	t-Bu	6-C1	H	$C_2F_5$	Br
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br
<i>i-</i> Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Ме	Н	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>t-</i> Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	·H	i-C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Br
<i>i</i> -Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	<i>t-</i> Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	H	CN	Br	Me	6-C1	H	CN	Br
Et	6-Me	H	CN	Br	Et	6-C1	H	CN	Br
<i>i-</i> Pr	6-Me	H	CN	Br	<i>i-</i> Pr	6-C1	H	CN	Br
t-Bu	6-Me	H	CN	Br	<i>t-</i> Bu	6-C1	H	CN	Br
Me	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	Me	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	H	OCHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	Me	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	Et ,	6-Cl	H	SCHF <sub>2</sub>	CF <sub>3</sub>
<i>i</i> -Pr	6-Ме	H	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-Cl	H	schf <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Ме	H	OCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
i-Pṛ	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>

<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6
t-Bu	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	Н	SCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
i-Pr	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-Cl	H	SCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	H	$C_2F_5$	CF <sub>3</sub>	Me	6-C1	H	$C_2F_5$	CF <sub>3</sub>
Et	6-Me	H	$C_2F_5$	CF <sub>3</sub>	Et	6-C1	H	$C_2F_5$	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	$C_2F_5$	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Н	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Me	H	$C_2F_5$	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	H	$C_2F_5$	CF <sub>3</sub>
Me	6-Ме	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	Н	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	t-Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	Н	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
i-Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	H	CN	CF <sub>3</sub>	Me	6-C1	H	CN	CF <sub>3</sub>
Et	6-Me	H	CN	CF <sub>3</sub>	Et	6-C1	H	CN	CF <sub>3</sub>
i-Pr	6-Ме	. Н	CN	CF <sub>3</sub>	i-Pr	6-C1	H	CN	CF <sub>3</sub>
t-Bu	6-Me	H	CN	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	H	CN	CF <sub>3</sub>
Me	6-Me	C1	OCHF <sub>2</sub>	F	Me	6-C1	C1	$OCHF_2$	F
Et	6-Ме	C1	OCHF <sub>2</sub>	F	Et	6-C1	Cl	$OCHF_2$	F
i-Pr	6-Me	Cl	OCHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	Cl	OCHF <sub>2</sub>	F
t-Bu	6-Ме	C1	OCHF <sub>2</sub>	F	t-Bu	6-C1	Cl	OCHF <sub>2</sub>	F
Me	6-Me	Cl	SCHF <sub>2</sub>	$\mathbf{F}$	Me	6-C1	Cl	SCHF <sub>2</sub>	F
Et	6-Ме	Cl	SCHF <sub>2</sub>	F	Et	6-C1	C1	SCHF <sub>2</sub>	F
i-Pr	6-Me	C1	SCHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	Cl	SCHF <sub>2</sub>	F
t-Bu	6-Me	Cl	SCHF <sub>2</sub>	F	<i>t-</i> Bu	6-C1	Cl	SCHF <sub>2</sub>	F
Me	6-Ме	C1	OCF <sub>3</sub>	F	Me	6-C1	C1	OCF <sub>3</sub>	F
Et	6-Ме	C1	OCF <sub>3</sub>	F	Et	6-C1	C1	OCF <sub>3</sub>	F
i-Pr	6-Me	C1	OCF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	Cl	OCF <sub>3</sub>	F
t-Bu	6-Me	C1	OCF <sub>3</sub>	F	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	F
Me	6-Ме	Cl	SCF <sub>3</sub>	F	Me	6-C1	C1	SCF <sub>3</sub>	F
Et	6-Ме	Cl	SCF <sub>3</sub>	F	Et	6-C1	C1	SCF <sub>3</sub>	F
i-Pr	6-Me	Cl	SCF <sub>3</sub>	F	i-Pr	6-C1	C1	SCF <sub>3</sub>	F
t-Bu	6-Ме	C1	SCF <sub>3</sub>	F	t-Bu	6-C1	Cl	SCF <sub>3</sub>	F

				13					
$\underline{R^3}$	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
Me	6-Ме	C1	$C_2F_5$	F	Me	6-C1	Cl	$C_2F_5$	F
Et	6-Ме	Cl	$C_2F_5$	F	Et	6-C1	C1	$C_2F_5$	$\mathbf{F}$
i-Pr	6-Ме	C1	$C_2F_5$	F	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	F
t-Bu	6-Ме	Cl	$C_2F_5$	F	<i>t</i> -Bu	6-Cl	C1	$C_2F_5$	F
Me	6-Ме	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$
Et	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	CI	n-C <sub>3</sub> F <sub>7</sub>	F
i-Pr	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	t-Bu	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	<b>C</b> 1	i-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
i-Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Ме	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	Cl	CN	F	Ме	6-C1	Cl	CN	F
Et	6-Me	Cl	CN	F	Et	6-C1	Cl	CN	F
i-Pr	6-Me	Cl	CN	F	<i>i-</i> Pr	6-C1	C1	CN	F
t-Bu	6-Ме	Cl	CN	F	<i>t</i> -Bu	6-C1	C1	CN	F
Me	6-Ме	C1	OCHF <sub>2</sub>	C1	Ме	6-Cl	C1	$OCHF_2$	C1
Et	6-Me	C1	OCHF <sub>2</sub>	C1	Et	6-C1	C1	$OCHF_2$	Cl
i-Pr	6-Me	Cl	OCHF <sub>2</sub>	C1	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	Cl
t-Bu	6-Me	C1	OCHF <sub>2</sub>	Cl	<i>t</i> -Bu	6-C1	C1	$OCHF_2$	C1
Me	6-Me	C1	SCHF <sub>2</sub>	C1	Me	6-C1	C1	SCHF <sub>2</sub>	C1
Et	6-Me	C1	SCHF <sub>2</sub>	C1	Et	6-C1	C1	$SCHF_2$	C1
i-Pr	6-Me	C1	SCHF <sub>2</sub>	Cl	<i>i-</i> Pr	6-Cl	C1	SCHF <sub>2</sub>	C1
t-Bu	6-Me	Cl	SCHF <sub>2</sub>	Cl	<i>t-</i> Bu	6-C1	Cl	SCHF <sub>2</sub>	C1
Me	6-Me	Cl	OCF <sub>3</sub>	C1	Me	6-C1	C1	OCF <sub>3</sub>	C1
Et	6-Me	C1	OCF <sub>3</sub>	C1	Et	6-C1	C1	OCF <sub>3</sub>	C1
i-Pr	6-Me	Cl	OCF <sub>3</sub>	C1	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	Cl
t-Bu	6-Me	Cl	OCF <sub>3</sub>	Cl	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	C1
Me	6-Me	Cl	SCF <sub>3</sub>	Cl	Me	6-C1	C1	SCF <sub>3</sub>	C1
Et	6-Me	C1	SCF <sub>3</sub>	Cl	Et	6-C1	C1	SCF <sub>3</sub>	C1
i-Pr	6-Ме	<b>C</b> 1	SCF <sub>3</sub>	C1	i-Pr	6-C1	C1	SCF <sub>3</sub>	C1
t-Bu	6-Ме	C1	SCF <sub>3</sub>	Cl	<i>t</i> -Bu	6-Cl	Cl	SCF <sub>3</sub>	Cl
Me	6-Me	Cl	$C_2F_5$	C1	Ме	6-C1	Cl	$C_2F_5$	Cl
Et	6-Me	Cl	$C_2F_5$	C1	Et	6-C1	C1	$C_2F_5$	C1
i-Pr	6-Ме	Cl	$C_2F_5$	C1	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	Cl
t-Bu	6-Ме	C1	$C_2F_5$	C1	<i>t</i> -Bu	6-Cl	Cl	$C_2F_5$	C1
Me	6-Ме	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	Ме	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1

<u>R</u> 3	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	R <sup>4</sup> b	<u>R</u> 7	<u>R</u> 6
Et	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
<i>i</i> -Pr	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl	<i>i-</i> Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1
<i>t</i> -Bu	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl	<i>t</i> -Bu	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Cl	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl
<i>i-</i> Pr	6-Me	<b>C1</b> .	i-C <sub>3</sub> F <sub>7</sub>	Cl	<i>i-</i> Pr	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
<i>t</i> -Bu	6-Ме	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	<i>t-</i> Bu	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Ме	Cl	CN	C1	Me	6-C1	C1	CN	C1
Et	6-Me	Cl	CN	C1	Et	6-C1	Cl	CN	C1
<i>i</i> -Pr	6-Me	Cl	CN	Cl	<i>i-</i> Pr	6-C1	Cl	CN	C1
t-Bu	6-Ме	C1	CN	C1	<i>t</i> -Bu	6-C1	C1	CN	C1
Me	6-Ме	C1	OCHF <sub>2</sub>	Br	Me	6-C1	C1	OCHF <sub>2</sub>	Br
Et	6-Ме	Cl	OCHF <sub>2</sub>	Br	Et	6-C1	C1	OCHF <sub>2</sub>	Br
i-Pr	6-Ме	Cl	OCHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	Cl	OCHF <sub>2</sub>	Br
t-Bu	6-Me	C1	OCHF <sub>2</sub>	Br	<i>t</i> -Bu	6-C1	Cl	OCHF <sub>2</sub>	Br
Me	6-Me	C1	SCHF <sub>2</sub>	Br	Me	6-C1	C1	SCHF <sub>2</sub>	Br
Et	6-Me	C1	SCHF <sub>2</sub>	Br	Et	6-C1	C1	SCHF <sub>2</sub>	Br
i-Pr	6-Me	C1	SCHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	C1	$SCHF_2$	Br
t-Bu	6-Me	C1	SCHF <sub>2</sub>	Br	<i>t</i> -Bu	6-C1	C1	$SCHF_2$	Br
Me	6-Me	C1	OCF <sub>3</sub>	Br	Me	6-C1	C1	OCF <sub>3</sub>	Br
Et	6-Me	C1	OCF <sub>3</sub>	Br	Et	6-C1	Cl	OCF <sub>3</sub>	Br
i-Pr	6-Me	Cl	OCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	Cl	OCF <sub>3</sub>	Br
t-Bu	6-Me	C1	OCF <sub>3</sub>	Br	t-Bu	6-C1	C1	OCF <sub>3</sub>	Br
Me	6-Me	C1	SCF <sub>3</sub>	Br	Me	6-C1	Cl	SCF <sub>3</sub>	Br
Et	6-Me	<b>C</b> 1	SCF <sub>3</sub>	Br	Et	6-C1	C1	SCF <sub>3</sub>	Br
i-Pr	6-Me	Cl	SCF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	Br
t-Bu	6-Me	C1	SCF <sub>3</sub>	Br	<i>t-</i> Bu	6-C1	C1	SCF <sub>3</sub>	Br
Me	6-Me	Cl	$C_2F_5$	Br	Me	6-Cl	C1	$C_2F_5$	Br
Et	6-Me	Cl	$C_2F_5$	Br	Et	6-C1	Cl	$C_2F_5$	Br
i-Pr	6-Me	Cl	$C_2F_5$	Br	i-Pr	6-C1	C1	$C_2F_5$	Br
t-Bu	6-Me	C1	$C_2F_5$	Br	t-Bu	6-C1	C1	$C_2F_5$	Br
Me	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
i-Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-CI	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br

					_				
$\underline{\mathbb{R}^3}$	$R^{4a}$	$R^{4b}$	<u>R</u> 7	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6
i-Pr	6-Ме	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Ме	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Ме	C1	CN	Br	Ме	6-C1	Cl	CN	Br
Et	6-Ме	C1	CN	Br	Et	6-C1	Cl	CN	Br
i-Pr	6-Ме	Cl	CN	Br	<i>i-</i> Pr	6-C1	Cl	CN	Br
t-Bu	6-Ме	Cl	CN	Br	<i>t-</i> Bu	6-C1	C1	CN	Br
Me	6-Ме	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	Ме	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Me	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
i-Pr	6-Me	C1	$OCHF_2$	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Ме	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Me	C1	$SCHF_2$	CF <sub>3</sub>	Me	6-C1	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	Cl	$SCHF_2$	CF <sub>3</sub>
i-Pr	6-Me	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>
Me	6-Ме	C1	OCF <sub>3</sub>	CF <sub>3</sub>	Ме	6-C1	Cl	OCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>
i-Pr	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	OCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	Cl	OCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	Me	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>
i-Pr	6-Ме	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>
Me	6-Ме	C1	$C_2F_5$	CF <sub>3</sub>	Me	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
Et	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	Et	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
i-Pr	6-Me	C1	$C_2F_5$	$CF_3$	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Me	Cl	$C_2F_5$	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>
Me	6-Ме	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i</i> -Pr	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	$CF_3$	<i>i-</i> Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t-</i> Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i</i> -Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-Cl	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Ме	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	C1	CN	CF <sub>3</sub>	Ме	6-C1	C1	CN	CF <sub>3</sub>
Et	6-Me	Cl	CN	CF <sub>3</sub>	Et	6-C1	Cl	CN	CF <sub>3</sub>
i-Pr	6-Me	C1	CN	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	CN	CF <sub>3</sub>

Table 15

$\underline{R^3}$	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
Me	6-Me	H	OCHF <sub>2</sub>	F	CH	Me	6-Cl	H	$OCHF_2$	F	CH
Et	6-Me	H	$OCHF_2$	F	CH	Et	6-C1	H	OCHF <sub>2</sub>	F	CH
<i>i-</i> Pr	6-Me	$\mathbf{H}$	OCHF <sub>2</sub>	F	СН	<i>i-</i> Pr	6-Cl	H	$OCHF_2$	F	CH
t-Bu	6-Me	$\mathbf{H}$	OCHF <sub>2</sub>	F	CH	t-Bu	6-C1	H	$OCHF_2$	F	CH
Me	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	F	CH	Me	6-C1	H	SCHF <sub>2</sub>	F	CH
Et	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	F	CH	Et	6-C1	H	SCHF <sub>2</sub>	F	CH
i-Pr	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	F	CH	i-Pr	6-C1	H	SCHF <sub>2</sub>	F	CH
t-Bu	6-Ме	$\mathbf{H}$	SCHF <sub>2</sub>	F	CH	t-Bu	6-C1	H	SCHF <sub>2</sub>	F	CH
Me	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	CH	Me	6-C1	H	OCF <sub>3</sub>	F	CH
Et	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	CH	Et	6-C1	H	OCF <sub>3</sub>	F	$\mathbf{CH}$
<i>i-</i> Pr	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	$\mathbf{F}$	CH	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	F	CH
t-Bu	6-Me	H	OCF <sub>3</sub>	F	CH	t-Bu	6-C1	H	OCF <sub>3</sub>	F	CH
Me	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	F	CH	Me	6-C1	H	SCF <sub>3</sub>	F	CH
Et	6-Me	H	SCF <sub>3</sub>	F	CH	Et	6-C1	H	SCF <sub>3</sub>	F	CH
<i>i-</i> Pr	6-Me	H	SCF <sub>3</sub>	F	CH	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	F	CH
t-Bu	6-Me	H	SCF <sub>3</sub>	F	CH	t-Bu	6-C1	H	SCF <sub>3</sub>	F	CH
Me	6-Me	$\mathbf{H}$	$C_2F_5$	F	CH	Me	6-C1	$\mathbf{H}$	$C_2F_5$	F	CH
Et	6-Me	H	$C_2F_5$	F	CH	Et	6-C1	H	$C_2F_5$	F	CH
<i>i-</i> Pr	6-Me	$\mathbf{H}$	$C_2F_5$	F	CH	<i>i-</i> Pr	6-C1	H	$C_2F_5$	F	CH
t-Bu	6-Me	H	$C_2F_5$	F	CH	t-Bu	6-C1	H	$C_2F_5$	F	CH
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Ме	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	$\mathbf{CH}$
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	CH

<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
t-Bu	6-Me	Н	n-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	CH	<i>t</i> -Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
<i>i</i> -Pr	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t-</i> Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	H	CN	F	CH	Me	6-C1	H	CN	F	CH
Et	6-Me	H	CN	F	CH	Et	6-C1	H	CN	F	CH
<i>i</i> -Pr	6-Me	H	CN	F	CH	i-Pr	6-C1	H	CN	F	CH
t-Bu	6-Ме	H	CN	F	CH	<i>t-</i> Bu	6-C1	H	CN	F	CH
Me	6-Me	H	OCHF <sub>2</sub>	<b>C</b> 1	CH	Me	6-C1	H	OCHF <sub>2</sub>	C1	CH
Et	6-Me	H	$OCHF_2$	<b>C</b> 1	CH	Et	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	C1	CH
i-Pr	6-Me	H	$OCHF_2$	<b>C</b> 1	CH	i-Pr	6-C1	H	OCHF <sub>2</sub>	C1	CH
t-Bu	6-Me	H	OCHF <sub>2</sub>	C1	CH	<i>t</i> -Bu	6-C1	H	OCHF <sub>2</sub>	C1	CH
Me	6-Me	H	SCHF <sub>2</sub>	C1	CH	Me	6-C1	H	SCHF <sub>2</sub>	C1	CH
Et	6-Me	H	SCHF <sub>2</sub>	Cl	CH	Et	6-C1	H	SCHF <sub>2</sub>	C1	CH
i-Pr	6-Me	H	SCHF <sub>2</sub>	C1	CH	i-Pr	6-C1	H	SCHF <sub>2</sub>	Cl	CH
t-Bu	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	Cl	CH
Me	6-Me	H	OCF <sub>3</sub>	Cl	CH	Me	6-C1	H	OCF <sub>3</sub>	C1	CH
Et	6-Me	H	OCF <sub>3</sub>	C1	CH	Et	6-C1	H	OCF <sub>3</sub>	C1	CH
i-Pr	6-Me	H	OCF <sub>3</sub>	C1	CH	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	C1	CH
t-Bu	6-Me	H	OCF <sub>3</sub>	C1	CH	t-Bu	6-C1	H	OCF <sub>3</sub>	C1	CH
Me	6-Me	H	SCF <sub>3</sub>	Cl	CH	Me	6-C1	H	SCF <sub>3</sub>	C1	CH
Et	6-Me	H	SCF <sub>3</sub>	C1	CH	Et	6-C1	H	SCF <sub>3</sub>	C1	CH
i-Pr	6-Me	H	SCF <sub>3</sub>	Cl	CH	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	C1	CH
t-Bu	6-Me	$\mathbf{H}$	SCF <sub>3</sub>	C1	CH	t-Bu	6-C1	H	SCF <sub>3</sub>	C1	CH
Me	6-Me	H	$C_2F_5$	Cl	CH	Me	6-C1	H	$C_2F_5$	C1	CH
Et	6-Me	H	$C_2F_5$	C1	CH	Et	6-C1	$\mathbf{H}$	$C_2F_5$	C1	CH
i-Pr	6-Me	H	$C_2F_5$	Cl	CH	<i>i-</i> Pr	6-C1	H	$C_2F_5$	C1	CH
t-Bu	6-Me	Н	$C_2F_5$	Cl	CH	<i>t</i> -Bu	6-C1	H	$C_2F_5$	Cl	CH
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
i-Pr	6-Me	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
Me	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH
t-Bu	6-Me	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{X}}$
Me	6-Ме	$\mathbf{H}$	CN	C1	CH	Me	6-C1	$\mathbf{H}$	CN	C1	CH
Et	6-Ме	H	CN	C1	CH	Et	6-C1	H	CN	C1	CH
i-Pr	6-Me	H	CN	C1	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	CN	C1	CH
t-Bu	6-Me	H	CN	C1	CH	<i>t</i> -Bu	6-C1	H	CN	Cl	CH
Me	6-Me	H	$OCHF_2$	Br	CH	Me	6-C1	$\mathbf{H}$	$OCHF_2$	Br	CH
Et	6-Me	H	$OCHF_2$	Br	CH	Et	6-C1	H	$OCHF_2$	Br	CH
i-Pr	6-Me	H	$OCHF_2$	Br	CH	<i>i-</i> Pr	6-C1	H	$OCHF_2$	Br	CH
t-Bu	6-Me	H	OCHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	6-C1	H	$OCHF_2$	Br	CH
Me	6-Me	H	SCHF <sub>2</sub>	Br	CH	Me	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	Br	CH
Et	6-Me	H	SCHF <sub>2</sub>	Br	СН	Et	6-C1	H	SCHF <sub>2</sub>	Br	CH
i-Pr	6-Me	H	SCHF <sub>2</sub>	Br	CH	i-Pr	6-C1	H	SCHF <sub>2</sub>	Br	CH
t-Bu	6-Me	H	SCHF <sub>2</sub>	Br	CH	t-Bu	6-C1	H	SCHF <sub>2</sub>	Br	CH
Me	6-Me	H	OCF <sub>3</sub>	Br	CH	Me	6-C1	H	OCF <sub>3</sub>	Br	CH
Et	6-Me	H	OCF <sub>3</sub>	Br	CH	Et	6-C1	H	OCF <sub>3</sub>	Br	CH
i-Pr	6-Me	H	OCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	Br	CH
t-Bu	6-Me	H	OCF <sub>3</sub>	Br	CH	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	Br	CH
Me	6-Me	H	SCF <sub>3</sub>	Br	CH	Me	6-C1	H	SCF <sub>3</sub>	Br	CH
Et	6-Me	H	SCF <sub>3</sub>	Br	CH	Et	6-C1	H	SCF <sub>3</sub>	Br	CH
i-Pr	6-Me	H	SCF <sub>3</sub>	Br	CH	i-Pr	6-C1	H	SCF <sub>3</sub>	Br	CH
t-Bu	6-Me	H	SCF <sub>3</sub>	Br	CH	t-Bu	6-C1	H	SCF <sub>3</sub>	Br	CH
Me	6-Ме	H	$C_2F_5$	Br	CH	Me	6-C1	H	$C_2F_5$	Br	CH
Et	6-Me	$\mathbf{H}$	$C_2F_5$	Br	CH	Et	6-C1	H	$C_2F_5$	Br	CH
i-Pr	6-Me	$\mathbf{H}$	$C_2F_5$	Br	CH	<i>i-</i> Pr	6-C1	H	$C_2F_5$	Br	CH
t-Bu	6-Ме	$\mathbf{H}$	$C_2F_5$	Br	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	$C_2F_5$	Br	CH
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i</i> -Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t-</i> Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-Cl	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
i-Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i</i> -Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t-</i> Bu	6-Cl	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	$\mathbf{H}$	CN	Br	CH	Me	6-Cl	$\mathbf{H}$	CN	Br	CH
Et	6-Me	H	CN	Br	CH	Et	6-C1	H	CN	Br	CH
<i>i</i> -Pr	6-Me	H	CN	Br	CH	<i>i-</i> Pr	6-C1	H	CN	Br	CH
t-Bu	6-Me	H	CN	Br	CH	<i>t-</i> Bu	6-C1	H	CN	Br	CH
Me	6-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH

	$\underline{\mathbb{R}^3}$	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>x</u>	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{X}}$
	Et	6-Ме	H	$OCHF_2$	CF <sub>3</sub>	CH	Et	6-C1	H	$OCHF_2$	CF <sub>3</sub>	CH
	i-Pr	6-Me	$\mathbf{H}$	$OCHF_2$	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	$OCHF_2$	CF <sub>3</sub>	CH
	t-Bu	6-Me	$\mathbf{H}$	$OCHF_2$	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
	Me	6-Ме	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
	Et	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
	i-Pr	6-Me	H	schf <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
	t-Bu	6-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
	Me	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
	Et	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
	<i>i-</i> Pr	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>	CH
	t-Bu	6-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
	Me	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	$\mathbf{H}$	SCF <sub>3</sub>	CF <sub>3</sub>	CH
	Et	6-Ме	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
	i-Pr	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
4	t-Bu	6-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t-</i> Bu	6-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
	Me	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	Me	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
	Et	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	Et	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
	<i>i-</i> Pr	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
	t-Bu	6-Ме	H	$C_2F_5$	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
	Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-Cl	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
	Et	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
	i-Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
	t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
	Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
	Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
	<i>i-</i> Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
	t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
	Me	6-Me	H	CN	CF <sub>3</sub>	CH	Me	6-C1	H	CN	CF <sub>3</sub>	CH
	Et	6-Me	H	CN	CF <sub>3</sub>	CH	Et	6-C1	H	CN	CF <sub>3</sub>	CH
	i-Pr	6-Me	H	. CN	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	CN	CF <sub>3</sub>	CH
	t-Bu	6-Me	H	CN	CF <sub>3</sub>	CH	t-Bu	6-C1	H	CN	CF <sub>3</sub>	CH
	Me	6-Ме	Cl	OCHF <sub>2</sub>	F	CH	Me	6-C1	C1	OCHF <sub>2</sub>	F	CH
	Et	6-Me	Cl	OCHF <sub>2</sub>	F	CH	Et	6-C1	C1	OCHF <sub>2</sub>	F	CH
	i-Pr	6-Me	C1	OCHF <sub>2</sub>	F	CH	i-Pr	6-C1	C1	OCHF <sub>2</sub>	F	CH
	t-Bu	6-Me	C1	OCHF <sub>2</sub>	F	CH	<i>t</i> -Bu	6-C1	C1	OCHF <sub>2</sub>	F	CH
	Me	6-Me	Cl	SCHF <sub>2</sub>	F	CH	Me	6-Cl	Cl	SCHF <sub>2</sub>	F	CH
•	Et	6-Me	Cl	SCHF <sub>2</sub>	F	CH	Et	6-C1	Cl	SCHF <sub>2</sub>	F	CH

<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
<i>i</i> -Pr	6-Me	C1	SCHF <sub>2</sub>	F	CH	<i>i-</i> Pr	6-C1	Cl	SCHF <sub>2</sub>	F	CH
t-Bu	6-Me	C1	SCHF <sub>2</sub>	$\mathbf{F}$	CH	<i>t</i> -Bu	6-C1	C1	SCHF <sub>2</sub>	F	CH
Ме	6-Ме	C1	OCF <sub>3</sub>	F	CH	Me	6-C1	Cl	OCF <sub>3</sub>	F	CH
Et	6-Me	C1	OCF <sub>3</sub>	F	CH	Et	6-Cl	Cl	OCF <sub>3</sub>	F	CH
<i>i</i> -Pr	6-Me	Cl	OCF <sub>3</sub>	F	CH	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	F	CH
t-Bu	6-Me	C1	OCF <sub>3</sub>	F	CH	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	F	CH
Me	6-Me	Cl	SCF <sub>3</sub>	F	CH	Me	6-C1	C1	SCF <sub>3</sub>	F	CH
Et	6-Me	C1	SCF <sub>3</sub>	F	CH	Et	6-C1	C1	SCF <sub>3</sub>	F	CH
<i>i</i> -Pr	6-Me	C1	SCF <sub>3</sub>	F	CH	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	F	CH
t-Bu	6-Ме	Cl	SCF <sub>3</sub>	F	CH	<i>t</i> -Bu	6-C1	C1	SCF <sub>3</sub>	F	CH
Me	6-Ме	Cl	$C_2F_5$	F	CH	Me	6-C1	Cl	$C_2F_5$	F	CH
Et	6-Me	C1	$C_2F_5$	F	CH	Et	6-C1	C1	$C_2F_5$	F	CH
<i>i-</i> Pr	6-Ме	C1	$C_2F_5$	F	CH	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	F	CH
t-Bu	6-Me	Cl	$C_2F_5$	F	CH	t-Bu	6-C1	C1	$C_2F_5$	F	CH
Me	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
<i>i</i> -Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH	i-Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	CH	t-Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH
<i>i-</i> Pr	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH	t-Bu	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	Cl	CN	F	CH	Me	6-C1	Cl	CN	F	CH
Et	6-Me	Cl	CN	F	CH	Et	6-C1	C1	CN	F	CH
<i>i-</i> Pr	6-Me	Cl	CN	F	CH	<i>i-</i> Pr	6-C1	C1	CN	F	CH
<i>t</i> -Bu	6-Me	C1	CN	F	CH	t-Bu	6-C1	C1	CN	F	CH
Me	6-Me	C1	OCHF <sub>2</sub>	C1	CH	Me	6-C1	Cl	OCHF <sub>2</sub>	C1	CH
Et	6-Me	Cl	OCHF <sub>2</sub>	C1	CH	Et	6-C1	C1	OCHF <sub>2</sub>	C1	CH
<i>i-</i> Pr	6-Me	Cl	OCHF <sub>2</sub>	Cl	CH	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	C1	CH
t-Bu	6-Ме	Cl	OCHF <sub>2</sub>	Cl	CH	<i>t</i> -Bu	6-C1	Cl	OCHF <sub>2</sub>	C1	CH
Me	6-Me	C1	SCHF <sub>2</sub>	CI	CH	Me	6-C1	Cl	SCHF <sub>2</sub>	Cl	CH
Et	6-Me	Cl	SCHF <sub>2</sub>	Cl	CH	Et	6-Cl	Cl	SCHF <sub>2</sub>	C1	CH
<i>i-</i> Pr	6-Me	Cl	SCHF <sub>2</sub>	C1	CH	i-Pr	6-C1	C1	SCHF <sub>2</sub>	C1	CH
t-Bu	6-Me	Cl	SCHF <sub>2</sub>	C1	CH	t-Bu	6-C1	C1	SCHF <sub>2</sub>	C1	CH
Me	6-Ме	C1	OCF <sub>3</sub>	C1	CH	Me	6-C1	C1	OCF <sub>3</sub>	C1	CH
Et	6-Ме	Cl	OCF <sub>3</sub>	Cl	CH	Et	6-C1	Cl	OCF <sub>3</sub>	C1	CH
<i>i-</i> Pr	6-Me	Cl	OCF <sub>3</sub>	C1	CH	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	C1	CH

<u>R</u> 3	R <sup>4</sup> a	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 6	v	<u>R</u> 3	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 6	v
t-Bu	6-Me	Cl	OCF <sub>3</sub>	Cl	<u>X</u> CH	t-Bu	6-Cl	Cl		Cl	<u>X</u> CH
<i>i-</i> Ви Ме	6-Me	Cl	•		СН				OCF <sub>3</sub>		
Et	6-Me	Cl	SCF <sub>3</sub>	CI		Me	6-Cl	C1	SCF <sub>3</sub>	CI	CH
	6-Me		SCF <sub>3</sub>	C1	CH	Et	6-C1	C1	SCF <sub>3</sub>	Cl	CH
i-Pr		C1	SCF <sub>3</sub>	C1	CH	i-Pr	6-C1	C1	SCF <sub>3</sub>	C1	CH
t-Bu	6-Me	C1	SCF <sub>3</sub>	C1	CH	t-Bu	6-Cl	Cl	SCF <sub>3</sub>	C1	CH
Me	6-Me	C1	C <sub>2</sub> F <sub>5</sub>	Cl	CH	Me	6-C1	C1	$C_2F_5$	C1	CH
Et	6-Me	C1	$C_2F_5$	C1	CH	Et	6-C1	Cl	C <sub>2</sub> F <sub>5</sub>	Cl	CH
<i>i-</i> Pr	6-Me	Cl	$C_2F_5$	C1	CH	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	C1	CH
t-Bu	6-Me	Cl	C <sub>2</sub> F <sub>5</sub>	C1	CH	t-Bu	6-C1	C1	$C_2F_5$	Cl	CH
Me	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	Me	6-Cl	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	6-Cl	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
<i>i-</i> Pr	6-Ме	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CI	CH	<i>i-</i> Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
<i>t</i> -Bu	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	t-Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
Me	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
<i>i</i> -Pr	6-Ме	CI	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	i-Pr	6-Cl	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CI	CH
t-Bu	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>t</i> -Bu	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	· C1	CN	C1	CH	Me	6-C1	CI	CN	C1	CH
Et	6-Me	C1	CN	Cl	CH	Et	6-C1	Cl	CN	C1	CH
i-Pr	6-Me	C1	CN	C1	CH	<i>i-</i> Pr	6-C1	C1	CN	C1	CH
t-Bu	6-Me	Cl	CN	Cl	CH	<i>t</i> -Bu	6-C1	C1	CN	Cl	CH
Me	6-Me	C1	OCHF <sub>2</sub>	Br	CH	Me	6-C1	C1	$OCHF_2$	Br	CH
Et	6-Me	C1	OCHF <sub>2</sub>	Br	CH	Et	6-C1	C1	$OCHF_2$	Br	CH
<i>i-</i> Pr	6-Me	C1	OCHF <sub>2</sub>	Br	CH	<i>i-</i> Pr	6-C1	C1	OCHF <sub>2</sub>	Br	CH
t-Bu	6-Me	C1	OCHF <sub>2</sub>	Br	CH	t-Bu	6-C1	C1	OCHF <sub>2</sub>	Br	CH
Me	6-Me	C1	SCHF <sub>2</sub>	Br	CH	Me	6-C1	C1	SCHF <sub>2</sub>	Br	CH
Et	6-Me	C1	SCHF <sub>2</sub>	Br	CH	Et	6-Cl	C1	SCHF <sub>2</sub>	Br	CH
<i>i-</i> Pr	6-Me	C1	SCHF <sub>2</sub>	Br	CH	i-Pr	6-C1	C1	SCHF <sub>2</sub>	Br	CH
t-Bu	6-Me	C1	SCHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	6-C1	C1	SCHF <sub>2</sub>	Br	CH
Me	6-Me	C1	OCF <sub>3</sub>	Br	CH	Me	6-C1	C1	OCF <sub>3</sub>	Br	CH
Et	6-Me	C1	OCF <sub>3</sub>	Br	CH	Et	6-C1	C1	OCF <sub>3</sub>	Br	CH
i-Pr	6-Me	C1	OCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-C1	Cl	OCF <sub>3</sub>	Br	CH
t-Bu	6-Me	C1	OCF <sub>3</sub>	Br	CH	<i>t</i> -Bu	6-C1	C1	OCF <sub>3</sub>	Br	CH
Me	6-Me	Cl	SCF <sub>3</sub>	Br	CH	Me	6-Cl	C1	SCF <sub>3</sub>	Br	CH
Et	6-Ме	C1	SCF <sub>3</sub>	Br	СН	Et	6-C1	C1	SCF <sub>3</sub>	Br	CH
<i>i-</i> Pr	6-Me	C1	SCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	Br	СН
t-Bu	6-Me	C1	SCF <sub>3</sub>	Br	CH	<i>t-</i> Bu	6-C1	C1	SCF <sub>3</sub>	Br	CH

<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>x</u>	<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
Me	6-Me	C1	$C_2F_5$	Br	CH	Me	6-C1	C1	$C_2F_5$	Br	CH
Et	6-Me	C1	$C_2F_5$	Br	CH	Et	6-C1	C1	$C_2F_5$	Br	CH
<i>i-</i> Pr	6-Ме	C1	$C_2F_5$	Br	CH	i-Pr	6-C1	Cl	$C_2F_5$	Br	CH
t-Bu	6-Me	C1	$C_2F_5$	Br	CH	<i>t-</i> Bu	6-C1	C1	$C_2F_5$	Br	CH
Me	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6- <b>C</b> l	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	i-Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	Cl	CN	Br	CH	Me	6-C1	Cl	CN	Br	CH
Et	6-Me	Cl	CN	Br	CH	Et	6-Cl	Cl	CN	Br	CH
<i>i-</i> Pr	6-Me	Cl	CN	Br	CH	i-Pr	6-C1	Cl	CN	Br	CH
t-Bu	6-Me	Cl	CN	Br	CH	<i>t</i> -Bu	6-Cl	C1	CN	Br	CH
Me	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	Cl	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	C1	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	SCHF <sub>2</sub>	$CF_3$	CH	Et	6-C1	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	Cl	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	OCF <sub>3</sub>	CF <sub>3</sub>	CH
<i>t</i> -Bu	6-Me	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	CH	t-Bu	6-Cl	Cl	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	SCF <sub>3</sub>	CF <sub>3</sub>	CH	t-Bu	6-Cl	Cl	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	CH	Me	6-C1	Cl	$C_2F_5$	CF <sub>3</sub>	CH
Et	6-Me	Cl	C <sub>2</sub> F <sub>5</sub>	CF <sub>3</sub>	CH	Et	6-Cl	C1	$C_2F_5$	CF <sub>3</sub>	CH
<i>i</i> -Pr	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	CH	i-Pr	6-C1	C1	$C_2F_5$	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	$C_2F_5$	CF <sub>3</sub>	CH	t-Bu	6-C1	Cl	C <sub>2</sub> F <sub>5</sub>	CF <sub>3</sub>	CH
Me	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH

***											
$\underline{\mathbb{R}^3}$	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	$\underline{\mathbf{X}}$
Et	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
<i>i</i> -Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t-</i> Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t-</i> Bu	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	Cl	CN	CF <sub>3</sub>	CH	Me	6-C1	Cl	CN	CF <sub>3</sub>	CH
Et	6-Me	Cl	CN	CF <sub>3</sub>	CH	Et	6-C1	Cl	CN	CF <sub>3</sub>	CH
i-Pr	6-Me	Cl	CN	CF <sub>3</sub>	CH	i-Pr	6-C1	Cl	CN	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	CN	$CF_3$	CH	<i>t</i> -Bu	6-C1	C1	CN	CF <sub>3</sub>	CH
Me	6-Me	H	OCHF <sub>2</sub>	F	CF	Me	6-C1	H	OCHF <sub>2</sub>	F	CF
Et	6-Me	H	OCHF <sub>2</sub>	F	CF	Et	6-C1	H	OCHF <sub>2</sub>	F	CF
i-Pr	6-Me	H	OCHF <sub>2</sub>	F	CF	<i>i-</i> Pr	6-C1	H	OCHF <sub>2</sub>	F	CF
t-Bu	6-Me	H	OCHF <sub>2</sub>	F	CF	t-Bu	6-C1	H	OCHF <sub>2</sub>	F	CF
Me	6-Me	H	SCHF <sub>2</sub>	F	CF	Ме	6-C1	H	SCHF <sub>2</sub>	F	CF
Et	6-Me	H	SCHF <sub>2</sub>	F	CF	Et	6-C1	H	SCHF <sub>2</sub>	F	CF
i-Pr	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	F	CF	<i>i-</i> Pr	6-C1	H	SCHF <sub>2</sub>	F	CF
t-Bu	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	F	CF	<i>t-</i> Bu	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	F	CF
Me	6-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	CF	Me	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	F	CF
Et	6-Me	H	OCF <sub>3</sub>	F	CF	Et	6-Cl	H	OCF <sub>3</sub>	F	CF
<i>i</i> -Pr	6-Me	H	OCF <sub>3</sub>	F	CF	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	F	CF
t-Bu	6-Me	H	OCF <sub>3</sub>	F	CF	t-Bu	6-C1	H	OCF <sub>3</sub>	F	CF
Me	6-Me	H	SCF <sub>3</sub>	F	CF	Me	6-C1	H	SCF <sub>3</sub>	F	CF
Et	6-Ме	H	SCF <sub>3</sub>	F	CF	Et	6-C1	H	SCF <sub>3</sub>	F	CF
i-Pr	6-Me	H	SCF <sub>3</sub>	F	CF	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	F	CF
t-Bu	6-Me	H	SCF <sub>3</sub>	F	CF	<i>t</i> -Bu	6-Cl	H	SCF <sub>3</sub>	F	CF
Me	6-Me	H	$C_2F_5$	F	CF	Me	6-C1	H	$C_2F_5$	F	CF
Et	6-Me	H	$C_2F_5$	F	CF	Et	6-Cl	H	$C_2F_5$	F	CF
i-Pr	6-Me	H	$C_2F_5$	F	CF	i-Pr	6-C1	H	$C_2F_5$	F	CF
t-Bu	6-Me	H	$C_2F_5$	F	CF	t-Bu	6-C1	H	$C_2F_5$	F	CF
Me	6-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-Cl	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
i-Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	i-Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	<i>t-</i> Bu	6-Cl	Н	n-C <sub>3</sub> F <sub>7</sub>	F	CF
Me	6-Me	Н	i-C <sub>3</sub> F <sub>7</sub>	F	CF	Me	6-C1	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF

<u>R</u> 3	R <sup>4a</sup>	R4b	<u>R</u> 7	<sub>R</sub> 6	<u>x</u>	<u>R</u> 3	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
<i>i</i> -Pr	—— 6-Me	H	 i-C <sub>3</sub> F <sub>7</sub>	— F	CF	<i>i</i> -Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
t-Bu	6-Me	н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	<i>t</i> -Bu	6-C1	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Me	6-Me	Н	CN	F	CF	Me	6-C1	н	CN	F	CF
Et	6-Me	Н	CN	F	CF	Et	6-C1	H	CN	F	CF
i-Pr	6-Me	$\mathbf{H}$	CN	F	CF	<i>i-</i> Pr	6-C1	$\mathbf{H}$	CN	F	CF
t-Bu	6-Me	н	CN	F	CF	<i>t-</i> Bu	6-C1	H	CN	$\mathbf{F}$	CF
Me	6-Me	Н	OCHF <sub>2</sub>	Cl	CC1	Me	6-C1	H	OCHF <sub>2</sub>	Cl	CCI
Et	6-Ме	H	$OCHF_2$	Cl	CCI	Et	6-C1	$\mathbf{H}$	$OCHF_2$	C1	CCl
<i>i</i> -Pr	6-Me	H	OCHF <sub>2</sub>	C1	CCl	i-Pr	6-C1	$\mathbf{H}$	$OCHF_2$	C1	CC1
t-Bu	6-Ме	H	$OCHF_2$	C1	CCI	<i>t</i> -Bu	6-C1	$\mathbf{H}$	OCHF <sub>2</sub>	Cl	CC1
Me	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CC1	Me	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	Cl	CC1
Et	6-Me	H	SCHF <sub>2</sub>	Cl	CCI	Et	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	Cl	CC1
i-Pr	6-Me	$\mathbf{H}$	SCHF <sub>2</sub>	Cl	CC1	<i>i-</i> Pr	6-C1	$\mathbf{H}$	SCHF <sub>2</sub>	Cl	CC1
t-Bu	6-Me	H	SCHF <sub>2</sub>	Cl	CCI	t-Bu	6-C1	H	SCHF <sub>2</sub>	<b>C</b> 1	CC1
Me	6-Me	H	OCF <sub>3</sub>	C1	CC1	Me	6-C1	H	OCF <sub>3</sub>	C1	CC1
Et	6-Ме	H	OCF <sub>3</sub>	C1	CC1	Et	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	C1	CC1
i-Pr	6-Ме	H	OCF <sub>3</sub>	C1	CC1	<i>i-</i> Pr	6-C1	H	OCF <sub>3</sub>	C1	CC1
t-Bu	6-Ме	H	OCF <sub>3</sub>	C1	CCI	t-Bu	6-C1	$\mathbf{H}$	OCF <sub>3</sub>	Cl	CCI
Me	6-Me	H	SCF <sub>3</sub>	C1	CC1	Me	6-C1	H	SCF <sub>3</sub>	C1	CC1
Et	6-Me	H	SCF <sub>3</sub>	Cl	CC1	Et	6-C1	H	SCF <sub>3</sub>	Cl	CC1
<i>i-</i> Pr	6-Me	H	SCF <sub>3</sub>	Cl	CCI	<i>i-</i> Pr	6-C1	H	SCF <sub>3</sub>	Cl	CC1
t-Bu	6-Me	H	SCF <sub>3</sub>	Cl	CC1	<i>t</i> -Bu	6-C1	H	SCF <sub>3</sub>	Cl	CC1
Me	6-Me	H	$C_2F_5$	C1	CCI	Me	6-C1	H	$C_2F_5$	Cl	CC1
Et	6-Me	H	$C_2F_5$	Cl	CCI	Et	6-C1	H	$C_2F_5$	C1	CC1
i-Pr	6-Me	$\mathbf{H}$	$C_2F_5$	Cl	CCl	<i>i-</i> Pr	6-C1	H	$C_2F_5$	Cl	CC1
t-Bu	6-Me	H	$C_2F_5$	C1	CCl	<i>t</i> -Bu	6-C1	H	$C_2F_5$	C1	CC1
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CCI	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CC1
Et	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CCI	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CCI
<i>i-</i> Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CCI	<i>i-</i> Pr	6-Cl	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CC1
t-Bu	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CCI	t-Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CC1
Me	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CCI	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CC1
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CC1	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CCI
<i>i-</i> Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CCI	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CC1
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CC1	<i>t</i> -Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CC1
Me	6-Ме	H	CN	Cl	CC1	Me	6-C1	Н	CN	Cl	CCI
Et	6-Me	H	CN	Cl	CC1	Et	6-C1	H	CN	Cl	CCI
i-Pr	6-Me	H	CN	Cl	CCI	<i>i-</i> Pr	6-C1	H	CN	Cl	CC1

<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>x</u>	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X
<i>t</i> -Bu	6-Ме	Н	CN	C1	CC1	<i>t-</i> Bu	6-C1	H	CN	C1	CC1
Me	3-Me	H	OCHF <sub>2</sub>	F	CH	Ме	3-C1	H	$OCHF_2$	F	CH
Et	3-Ме	H	OCHF <sub>2</sub>	F	CH	Et	3-C1	H	$OCHF_2$	F	CH
<i>i</i> -Pr	3-Ме	H	$OCHF_2$	F	CH	<i>i-</i> Pr	3-C1	H	$OCHF_2$	F	CH
t-Bu	3-Ме	H	$OCHF_2$	F	CH	<i>t</i> -Bu	3-C1	H	$OCHF_2$	F	CH
Me	3-Me	H	SCHF <sub>2</sub>	F	CH	Me	3-C1	H	SCHF <sub>2</sub>	F	CH
Et	3-Ме	H	SCHF <sub>2</sub>	F	CH	Et	3-C1	H	SCHF <sub>2</sub>	F	CH
<i>i-</i> Pr	3-Ме	H	SCHF <sub>2</sub>	F	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	SCHF <sub>2</sub>	F	CH
t-Bu	3-Ме	H	SCHF <sub>2</sub>	F	CH	<i>t</i> -Bu	3-C1	$\mathbf{H}$	SCHF <sub>2</sub>	F	CH
Me	3-Ме	H	OCF <sub>3</sub>	F	CH	Me	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	F	CH
Et	3-Me	$\mathbf{H}$	OCF <sub>3</sub>	F	CH	Et	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	F	CH
<i>i</i> -Pr	3-Ме	Н	OCF <sub>3</sub>	F	CH	<i>i-</i> Pr	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	F	CH
t-Bu	3-Me	H	OCF <sub>3</sub>	F	CH	t-Bu	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	F	CH
Me	3-Ме	H	SCF <sub>3</sub>	F	CH	Me	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	F	CH
Et	3-Ме	H	SCF <sub>3</sub>	F	CH	Et	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	F	CH
i-Pr	3-Ме	H	SCF <sub>3</sub>	F	CH	<i>i-</i> Pr	3-C1	H	SCF <sub>3</sub>	F	CH
t-Bu	3-Me	H	SCF <sub>3</sub>	F	CH	<i>t-</i> Bu	3-C1	H	SCF <sub>3</sub>	F	CH
Me	3-Me	H	$C_2F_5$	F	CH	Me	3-C1	H	$C_2F_5$	F	CH
Et	3-Me	H	$C_2F_5$	F	CH	Et	3-C1	H	$C_2F_5$	F	CH
<i>i</i> -Pr	3-Ме	H	$C_2F_5$	F	CH	<i>i-</i> Pr	3-C1	H	$C_2F_5$	F	CH
t-Bu	3-Me	H	$C_2F_5$	F	CH	t-Bu	3-C1	H	$C_2F_5$	F	CH
Me	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	3-C1	Н	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	Et	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
<i>i</i> -Pr	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	i-Pr	3-Cl	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	3-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	3-Me	$\mathbf{H}$	CN	F	CH	Me	3-C1	H	CN	F	CH
Et	3-Me	$\mathbf{H}$	CN	F	CH	Et	3-C1	Н	CN	F	CH
<i>i-</i> Pr	3-Me	H	CN	F	CH	<i>i-</i> Pr	3-C1	H	CN	F	CH
t-Bu	3-Me	$\mathbf{H}$	CN	F	CH	<i>t-</i> Bu	3-C1	$\mathbf{H}$	CN	F	CH
Me	3-Me	H	OCHF <sub>2</sub>	, C1	CH	Me	3-C1	H	OCHF <sub>2</sub>	C1	CH
Et	3-Me	H	OCHF <sub>2</sub>	C1	CH	Et	3-C1	H	OCHF <sub>2</sub>	C1	CH
<i>i-</i> Pr	3-Me	H	OCHF <sub>2</sub>	Cl	CH	<i>i</i> -Pr	3-C1	H	OCHF <sub>2</sub>	C1	CH
t-Bu	3-Me	H	OCHF <sub>2</sub>	Cl	CH	t-Bu	3-C1	H	OCHF <sub>2</sub>	C1	CH

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<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
Me	3-Ме	H	SCHF <sub>2</sub>	Cl	CH	Me	3-C1	Н	SCHF <sub>2</sub>	C1	CH
Et	3-Me	$\mathbf{H}$	SCHF <sub>2</sub>	C1	CH	Et	3-C1	H	SCHF <sub>2</sub>	Cl	CH
<i>i-</i> Pr	3-Me	H	SCHF <sub>2</sub>	C1	CH	<i>i-</i> Pr	3-C1	H	SCHF <sub>2</sub>	C1	CH
t-Bu	3-Ме	$\mathbf{H}$	SCHF <sub>2</sub>	CI	CH	t-Bu	3-C1	Н	SCHF <sub>2</sub>	Cl	CH
Me	3-Me	$\mathbf{H}$	OCF <sub>3</sub>	Cl	CH	Me	3-C1	H	OCF <sub>3</sub>	C1	CH
Et	3-Me	H	OCF <sub>3</sub>	C1	CH	Et	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	Cl	CH
i-Pr	3-Me	H	OCF <sub>3</sub>	C1	CH	i-Pr	3-C1	H	OCF <sub>3</sub>	C1	CH
t-Bu	3-Me	H	OCF <sub>3</sub>	C1	CH	t-Bu	3-C1	H	OCF <sub>3</sub>	C1	CH
Me	3-Me	H	SCF <sub>3</sub>	Cl	CH	Me	3-C1	H	SCF <sub>3</sub>	Cl	CH
Et	3-Ме	H	SCF <sub>3</sub>	Cl	CH	Et	3-C1	H	SCF <sub>3</sub>	Cl	CH
<i>i-</i> Pr	3-Me	H	SCF <sub>3</sub>	C1	CH	i-Pr	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	C1	CH
t-Bu	3-Me	H	SCF <sub>3</sub>	C1	CH	t-Bu	3-C1	H	SCF <sub>3</sub>	C1	CH
Me	3-Me	H	$C_2F_5$	Cl	CH	Me	3-C1	Н	$C_2F_5$	Cl	CH
Et	3-Me	H	$C_2F_5$	Cl	CH	Et	3-C1	H	$C_2F_5$	C1	CH
<i>i-</i> Pr	3-Me	H	$C_2F_5$	C1	CH	i-Pr	3-C1	H	$C_2F_5$	C1	CH
t-Bu	3-Me	H	$C_2F_5$	C1	CH	t-Bu	3-C1	H	$C_2F_5$	C1	CH
Me	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Et	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Et	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
<i>i</i> -Pr	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH	i-Pr	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>t</i> -Bu	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	Me	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
Et	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	3-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
<i>i-</i> Pr	3-Me	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CH	i-Pr	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH	t-Bu	3-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	3-Me	H	CN	C1	CH	Me	3-C1	H	CN	C1	CH
Et	3-Me	$\mathbf{H}$	CN	C1	CH	Et	3-C1	$\mathbf{H}$	CN	C1	CH
i-Pr	3-Me	$\mathbf{H}$	CN	Cl	CH	<i>i-</i> Pr	3-C1	H	CN	C1	CH
t-Bu	3-Me	$\mathbf{H}$	CN	C1	CH	<i>t</i> -Bu	3-C1	$\mathbf{H}$	CN	C1	CH
Me	3-Me	$\mathbf{H}$	OCHF <sub>2</sub>	Br	CH	Me	3-C1	$\mathbf{H}$	OCHF <sub>2</sub>	Br	CH
Et	3-Me	$\mathbf{H}$	OCHF <sub>2</sub>	Br	CH	Et	3-C1	H	OCHF <sub>2</sub>	Br	CH
<i>i-</i> Pr	3-Me	H	OCHF <sub>2</sub>	Br	CH	i-Pr	3-C1	H	OCHF <sub>2</sub>	Br	CH
t-Bu	3-Me	H	OCHF <sub>2</sub>	Br	CH	t-Bu	3-C1	H	OCHF <sub>2</sub>	Br	CH
Me	3-Me	H	SCHF <sub>2</sub>	Br	$\mathbf{CH}$	Me	3-C1	H	SCHF <sub>2</sub>	Br	CH
Et	3-Me	$\mathbf{H}$	SCHF <sub>2</sub>	Br	CH	Et	3-C1	H	SCHF <sub>2</sub>	Br	CH
<i>i-</i> Pr	3-Me	H	SCHF <sub>2</sub>	Br	CH	<i>i-</i> Pr	3-C1	H	SCHF <sub>2</sub>	Br	CH
t-Bu	3-Me	Н	SCHF <sub>2</sub>	Br	CH	t-Bu	3-C1	H	SCHF <sub>2</sub>	Br	CH
Me	3-Me	H	OCF <sub>3</sub>	Br	CH	Me	3-C1	H	OCF <sub>3</sub>	Br	CH

<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 7	<u>R</u> 6	<u>X</u>
Et	3-Me	H	OCF <sub>3</sub>	Br	CH	Et	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	Br	CH
i-Pr	3-Me	H	OCF <sub>3</sub>	Br	CH	<i>i-</i> Pr	3-C1	H	OCF <sub>3</sub>	Br	CH
t-Bu	3-Me	H	OCF <sub>3</sub>	Br	CH	t-Bu	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	Br	CH
Me	3-Me	H	SCF <sub>3</sub>	Br	CH	Me	3-C1	H	SCF <sub>3</sub>	Br	CH
Et	3-Me	H	SCF <sub>3</sub>	Br	CH	Et	3-C1	$\mathbf{H}$	SCF <sub>3</sub>	Br	CH
i-Pr	3-Me	H	SCF <sub>3</sub>	Br	CH	i-Pr	3-C1	H	SCF <sub>3</sub>	Br	CH
t-Bu	3-Me	H	SCF <sub>3</sub>	Br	CH	t-Bu	3-C1	H	SCF <sub>3</sub>	Br	CH
Me	3-Me	$\mathbf{H}$	$C_2F_5$	Br	CH	Ме	3-C1	H	$C_2F_5$	Br	CH
Et	3-Me	H	$C_2F_5$	Br	CH	Et	3-C1	H	$C_2F_5$	Br	CH
i-Pr	3-Me	H	$C_2F_5$	Br	CH	i-Pr	3-C1	H	$C_2F_5$	Br	CH
t-Bu	3-Me	$\mathbf{H}$	$C_2F_5$	Br	CH	<i>t</i> -Bu	3-C1	H	$C_2F_5$	Br	CH
Me	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
i-Pr	3-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t</i> -Bu	3-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i-</i> Pr	3-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	3-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	3-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	3-Me	H	CN	Br	CH	Me	3-C1	H	CN	Br	CH
Et	3-Me	H	CN	Br	CH	Et	3-C1	H	CN	Br	CH
<i>i-</i> Pr	3-Me	H	CN	Br	CH	<i>i-</i> Pr	3-C1	H	CN	Br	CH
t-Bu	3-Me	H	CN	Br	CH	t-Bu	3-C1	H	CN	Br	CH
Me	3-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	3-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	3-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	3-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	3-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	3-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	3-Me	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH	t-Bu	3-C1	H	OCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	3-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	3-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	3-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	3-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
i-Pr	3-Me	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	3-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	3-Me	H	SCHF <sub>2</sub>	$CF_3$	CH	<i>t</i> -Bu	3-C1	H	SCHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	3-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	3-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	i-Pr	3-C1	$\mathbf{H}$	OCF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	3-Me	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH	t-Bu	3-C1	H	OCF <sub>3</sub>	CF <sub>3</sub>	CH
Me	3-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Me	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH
Et	3-Me	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH	Et	3-C1	H	SCF <sub>3</sub>	CF <sub>3</sub>	CH

Table 16

<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	$\underline{\mathbb{R}^3}$	<u>R</u> 6	<u>R<sup>4a</sup></u>	$\underline{R^{4b}}$	<u>R</u> 9	$\underline{\mathbb{R}^3}$	<u>R</u> 6
CH <sub>3</sub>	F	CF <sub>3</sub>	Me	C1	C1	Br	$CH_2CF_3$	Me	Br
$CH_3$	F	CF <sub>3</sub>	Et	Cl	C1	Br	$CH_2CF_3$	Et	Br
CH <sub>3</sub>	F	CF <sub>3</sub>	<i>i-</i> Pr	Cl	Cl	Br	$CH_2CF_3$	<i>i</i> -Pr	Br
CH <sub>3</sub>	F	CF <sub>3</sub>	t-Bu	Cl	Cl	Br	$CH_2CF_3$	t-Bu	Br
$CH_3$	F	CF <sub>3</sub>	Me	Br	C1	Br	$CF_2CHF_2$	Me	Cl
$CH_3$	F	CF <sub>3</sub>	Et	Br	C1	Br	$CF_2CHF_2$	Et	C1
CH <sub>3</sub>	F	CF <sub>3</sub>	<i>i-</i> Pr	Br	C1	Br	$CF_2CHF_2$	i-Pr	Cl
$CH_3$	F	CF <sub>3</sub>	t-Bu	Br	C1	Br	$CF_2CHF_2$	t-Bu	Cl

<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R<sup>3</sup></u>	<u>R</u> 6	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 3	<u>R</u> 6
CH <sub>3</sub>	F	CH <sub>2</sub> CF <sub>3</sub>	Me	Cl	C1	Br	$CF_2CHF_2$	Me	Br
CH <sub>3</sub>	$\mathbf{F}$	CH <sub>2</sub> CF <sub>3</sub>	Et	C1	C1	Br	$CF_2CHF_2$	Et	Br
CH <sub>3</sub>	F	$CH_2CF_3$	i-Pr	Cl	Cl	Br	$CF_2CHF_2$	i-Pr	Br
CH <sub>3</sub>	F	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Cl	C1	Br	$CF_2CHF_2$	t-Bu	Br
CH <sub>3</sub>	F	CH <sub>2</sub> CF <sub>3</sub>	Me	Br	C1	I	CF <sub>3</sub>	Me	Cl
$CH_3$	F	$CH_2CF_3$	Et	Br	C1	Ι	CF <sub>3</sub>	Et	C1
CH <sub>3</sub>	F	$CH_2CF_3$	i-Pr	Br	C1	I	CF <sub>3</sub>	i-Pr	C1
$CH_3$	F	$CH_2CF_3$	t-Bu	Br	C1	Ι	CF <sub>3</sub>	t-Bu	C1
$CH_3$	F	$CF_2CHF_2$	Me	C1	C1	Ι	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	F	$CF_2CHF_2$	Et	CI	C1	Ι	CF <sub>3</sub>	Et	Br
$CH_3$	F	$CF_2CHF_2$	i-Pr	Cl	C1	I	CF <sub>3</sub>	i-Pr	Br
$CH_3$	F	$CF_2CHF_2$	t-Bu	Cl	C1	I	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	F	$CF_2CHF_2$	Me	Br	C1	Ι	$CH_2CF_3$	Me	C1
CH <sub>3</sub>	F	$CF_2CHF_2$	Et	Br	C1	Ι	$CH_2CF_3$	Et	Cl
CH <sub>3</sub>	F	$CF_2CHF_2$	i-Pr	Br	C1	I	$CH_2CF_3$	<i>i-</i> Pr	C1
$CH_3$	F	$CF_2CHF_2$	t-Bu	Br	C1	Ι	$CH_2CF_3$	t-Bu	C1
CH <sub>3</sub>	Cl	CF <sub>3</sub>	Me	C1	C1	I	$CH_2CF_3$	Me	Br
CH <sub>3</sub>	C1	CF <sub>3</sub>	Et	Cl	Cl	I	$CH_2CF_3$	Et	Br
CH <sub>3</sub>	C1	CF <sub>3</sub>	i-Pr	Cl	C1	Ι	$CH_2CF_3$	i-Pr	Br
CH <sub>3</sub>	C1	CF <sub>3</sub>	t-Bu	Cl	Cl	Ι	$CH_2CF_3$	<i>t-</i> Bu	Br
CH <sub>3</sub>	C1	CF <sub>3</sub>	Me	Br	Cl	I	$CF_2CHF_2$	Me	C1
CH <sub>3</sub>	Cl	CF <sub>3</sub>	Et	Br	C1	Ι	$CF_2CHF_2$	Et	C1
CH <sub>3</sub>	C1	CF <sub>3</sub>	i-Pr	Br	Cl	I	CF <sub>2</sub> CHF <sub>2</sub>	i-Pr	C1
CH <sub>3</sub>	Cl	CF <sub>3</sub>	t-Bu	Br	C1	I	$CF_2CHF_2$	t-Bu	C1
CH <sub>3</sub>	C1	$CH_2CF_3$	Me	C1	Cl	Ι	$CF_2CHF_2$	Me	Br
CH <sub>3</sub>	C1	$CH_2CF_3$	Et	C1	C1	I	$CF_2CHF_2$	Et	Br
CH <sub>3</sub>	C1	$CH_2CF_3$	i-Pr	Cl	Cl	I	CF <sub>2</sub> CHF <sub>2</sub>	<i>i-</i> Pr	Br
CH <sub>3</sub>	C1	$CH_2CF_3$	t-Bu	Cl	Cl	Ι	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Br
CH <sub>3</sub>	C1	$CH_2CF_3$	Me	Br	Cl	CF <sub>3</sub>	CF <sub>3</sub>	Me	Cl
CH <sub>3</sub>	C1	$CH_2CF_3$	Et	Br	Cl	CF <sub>3</sub>	CF <sub>3</sub>	Et	C1
CH <sub>3</sub>	C1	$CH_2CF_3$	<i>i-</i> Pr	Br	C1	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	C1
CH <sub>3</sub>	Cl	$CH_2CF_3$	t-Bu	Br	C1	CF <sub>3</sub>	CF <sub>3</sub>	<i>t-</i> Bu	Cl
CH <sub>3</sub>	C1	CF <sub>2</sub> CHF <sub>2</sub>	Me	C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	C1	CF <sub>2</sub> CHF <sub>2</sub>	Et	C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	Cl	$CF_2CHF_2$	i-Pr	C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	Br
CH <sub>3</sub>	C1	$CF_2CHF_2$	t-Bu	C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br
СН3	Cl	CF <sub>2</sub> CHF <sub>2</sub>	Me	Br	Cl	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	Me	Cl

<u>R<sup>4</sup>a</u>	<u>R4b</u>	<u>R</u> 9	$\mathbb{R}^3$	<u>R</u> 6	<u>R<sup>4</sup>a</u>	<u>R4b</u>	$\mathbb{R}^9$	<u>R</u> 3	<u>R</u> 6
CH <sub>3</sub>	C1	CF <sub>2</sub> CHF <sub>2</sub>	Et	$\mathbf{Br}$	C1	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	Et	Cl
$CH_3$	Cl	CF <sub>2</sub> CHF <sub>2</sub>	i-Pr	Br	C1	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	i-Pr	Cl
$CH_3$	C1	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Br	C1	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	CI
CH <sub>3</sub>	Br	CF <sub>3</sub>	Me	Cl	C1	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	Br	CF <sub>3</sub>	Et	Cl	C1	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	Et	Br
$CH_3$	Br	CF <sub>3</sub>	i-Pr	Cl	C1	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	Br	CF <sub>3</sub>	<i>t</i> -Bu	CI	C1	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	Br	CF <sub>3</sub>	Me	Br	C1	$CF_3$	CF <sub>2</sub> CHF <sub>2</sub>	Me	C1
CH <sub>3</sub>	Br	CF <sub>3</sub>	Et	Br	C1	CF <sub>3</sub>	CF <sub>2</sub> CHF <sub>2</sub>	Et	C1
$CH_3$	Br	CF <sub>3</sub>	i-Pr	Br	Cl	CF <sub>3</sub>	CF <sub>2</sub> CHF <sub>2</sub>	i-Pr	C1
CH <sub>3</sub>	Br	CF <sub>3</sub>	<i>t</i> ∼Bu	Br	C1	CF <sub>3</sub>	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	C1
CH <sub>3</sub>	Br	CH <sub>2</sub> CF <sub>3</sub>	Me	Cl	Cl	CF <sub>3</sub>	$CF_2CHF_2$	Me	Br
$CH_3$	Br	CH <sub>2</sub> CF <sub>3</sub>	Et	C1	C1	CF <sub>3</sub>	$CF_2CHF_2$	Et	Br
CH <sub>3</sub>	Br	CH <sub>2</sub> CF <sub>3</sub>	i-Pr	C1	C1	CF <sub>3</sub>	CF <sub>2</sub> CHF <sub>2</sub>	i-Pr	Br
CH <sub>3</sub>	Br	$CH_2CF_3$	t-Bu	Cl	C1	CF <sub>3</sub>	$CF_2CHF_2$	t-Bu	Br
CH <sub>3</sub>	Br	CH <sub>2</sub> CF <sub>3</sub>	Me	Br	Cl	Cl	CH <sub>2</sub> CF <sub>3</sub>	n-Pr	C1
CH <sub>3</sub>	Br	$CH_2CF_3$	Et	Br	C1	C1	CH <sub>2</sub> CF <sub>3</sub>	n-Bu	<b>C</b> 1
$CH_3$	Br	CH <sub>2</sub> CF <sub>3</sub>	i-Pr	Br	C1	C1	$CH_2CF_3$	s-Bu	C1
CH <sub>3</sub>	Br	$CH_2CF_3$	t-Bu	Br	Cl	Cl	CH <sub>2</sub> CF <sub>3</sub>	<i>i</i> -Bu	C1
CH <sub>3</sub>	Br	$CF_2CHF_2$	Me	Cl	Br	F	CF <sub>3</sub>	Me	C1
CH <sub>3</sub>	Br	$CF_2CHF_2$	Et	Cl	Br	F	CF <sub>3</sub>	Et	C1
CH <sub>3</sub>	Br	$CF_2CHF_2$	i-Pr	Cl	Br	F	CF <sub>3</sub>	i-Pr	C1
$CH_3$	Br	$CF_2CHF_2$	t-Bu	C1	Br	F	CF <sub>3</sub>	t-Bu	C1
CH <sub>3</sub>	Br	CF <sub>2</sub> CHF <sub>2</sub>	Me	Br	Br	F	CF <sub>3</sub>	Me	Br
$CH_3$	Br	CF <sub>2</sub> CHF <sub>2</sub>	Et	Br	Br	F	CF <sub>3</sub>	Et	Br
$CH_3$	Br	$CF_2CHF_2$	i-Pr	Br	Br	F	CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	Br	$CF_2CHF_2$	t-Bu	Br	Br	F	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	I	CF <sub>3</sub>	Me	C1	Br	F	CH <sub>2</sub> CF <sub>3</sub>	Me	C1
CH <sub>3</sub>	I	CF <sub>3</sub>	Et	Cl	Br	F	CH <sub>2</sub> CF <sub>3</sub>	Et	C1
CH <sub>3</sub>	I	CF <sub>3</sub>	i-Pr	Cl	Br	F	CH <sub>2</sub> CF <sub>3</sub>	<i>i</i> -Pr	CI
CH <sub>3</sub>	1	CF <sub>3</sub>	t-Bu	C1	Br	F	$CH_2CF_3$	t-Bu	C1
CH <sub>3</sub>	1	CF <sub>3</sub>	Me	Br	Br	F	$CH_2CF_3$	Me	Br
CH <sub>3</sub>	I	CF <sub>3</sub>	Et	Br	Br	F	CH <sub>2</sub> CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	I	CF <sub>3</sub>	<i>i-</i> Pr	Br	Br	F	CH <sub>2</sub> CF <sub>3</sub>	<i>i-</i> Pr	Br
CH <sub>3</sub>	I	CF <sub>3</sub>	t-Bu	Br	Br	F	$CH_2CF_3$	t-Bu	Br
CH <sub>3</sub>	1	$CH_2CF_3$	Me	Cl	Br	F	$CF_2CHF_2$	Me	C1
CH <sub>3</sub>	I	CH <sub>2</sub> CF <sub>3</sub>	Et	Cl	Br	$\mathbf{F}$	CF <sub>2</sub> CHF <sub>2</sub>	Et	Cl

				1.					
<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 9	$\underline{\mathbb{R}^3}$	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	$\mathbb{R}^9$	<u>R<sup>3</sup></u>	<u>R</u> 6
CH <sub>3</sub>	I	CH <sub>2</sub> CF <sub>3</sub>	<i>i-</i> Pr	Cl	Br	F	CF <sub>2</sub> CHF <sub>2</sub>	i-Pr	Cl
CH <sub>3</sub>	I	$CH_2CF_3$	t-Bu	Cl	Br	F	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Cl
$CH_3$	I	CH <sub>2</sub> CF <sub>3</sub>	Me	Br	Br	$\mathbf{F}$	$CF_2CHF_2$	Me	Br
$CH_3$	I	CH <sub>2</sub> CF <sub>3</sub>	Et	Br	Br	F	$CF_2CHF_2$	Et	Br
CH <sub>3</sub>	I	$CH_2CF_3$	<i>i-</i> Pr	Br	Br	F	$CF_2CHF_2$	<i>i-</i> Pr	Br
$CH_3$	I	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Br	Br	F	$CF_2CHF_2$	t-Bu	Br
$CH_3$	I	$CF_2CHF_2$	Me	Cl	Br	C1	CF <sub>3</sub>	Me	C1
$CH_3$	I	$CF_2CHF_2$	Et	Cl	Br	C1	CF <sub>3</sub>	Et	Cl
$CH_3$	I	$CF_2CHF_2$	i-Pr	C1	Br	C1	CF <sub>3</sub>	<i>i-</i> Pr	Cl
$CH_3$	I	$CF_2CHF_2$	t-Bu	C1	Br	Cl	CF <sub>3</sub>	t-Bu	Cl
$CH_3$	I	$CF_2CHF_2$	Me	Br	Br	Cl	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	I	$CF_2CHF_2$	Et	Br	Br	C1	CF <sub>3</sub>	Et	Br
$CH_3$	I	$CF_2CHF_2$	<i>i-</i> Pr	Br	Br	C1	CF <sub>3</sub>	<i>i-</i> Pr	Br
$CH_3$	I	$CF_2CHF_2$	t-Bu	Br	Br	C1	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Me	C1	Br	C1	$CH_2CF_3$	Me	Cl
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Et	Cl	Br	C1	$CH_2CF_3$	Et	C1
$CH_3$	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	Cl	Br	C1	$CH_2CF_3$	i-Pr	C1
$CH_3$	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	C1	Br	C1	$CH_2CF_3$	t-Bu	C1
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	Me	Br	Br	C1	CH <sub>2</sub> CF <sub>3</sub>	Me	Br
$CH_3$	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br	Br	C1	$CH_2CF_3$	Et	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	Br	Br	Cl	$CH_2CF_3$	<i>i-</i> Pr	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br	Br	Cl	$CH_2CF_3$	t-Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	$CH_2CF_3$	Me	C1	Br	Cl	$CF_2CHF_2$	Me	C1
CH <sub>3</sub>	CF <sub>3</sub>	$CH_2CF_3$	Et	C1	Br	Cl	$CF_2CHF_2$	Et	C1
CH <sub>3</sub>	CF <sub>3</sub>	$CH_2CF_3$	<i>i-</i> Pr	C1	Br	C1	$CF_2CHF_2$	i-Pr	C1
CH <sub>3</sub>	CF <sub>3</sub>	$CH_2CF_3$	t-Bu	C1	Br	C1	$CF_2CHF_2$	t-Bu	C1
CH <sub>3</sub>	CF <sub>3</sub>	$CH_2CF_3$	Me	Br	Br	C1	$CF_2CHF_2$	Me	Br
CH <sub>3</sub>	CF <sub>3</sub>	$CH_2CF_3$	Et	Br	Br	C1	$CF_2CHF_2$	Et	Br
CH <sub>3</sub>	CF <sub>3</sub>	$CH_2CF_3$	<i>i</i> -Pr	Br	Br	Cl	$CF_2CHF_2$	<i>i-</i> Pr	Br
CH <sub>3</sub>	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Br	Br	C1	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Br
CH <sub>3</sub>	CF <sub>3</sub>	$CF_2CHF_2$	Me	Cl	Br	Br	CF <sub>3</sub>	Me	C1
$CH_3$	CF <sub>3</sub>	CF <sub>2</sub> CHF <sub>2</sub>	Et	C1	Br	Br	CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	CF <sub>3</sub>	$CF_2CHF_2$	i-Pr	Cl	Br	Br	CF <sub>3</sub>	<i>i-</i> Pr	C1
$CH_3$	CF <sub>3</sub>	$CF_2CHF_2$	t-Bu	Cl	Br	Br	CF <sub>3</sub>	t-Bu	Cl
CH <sub>3</sub>	CF <sub>3</sub>	$CF_2CHF_2$	Me	Br	Br	Br	CF <sub>3</sub>	Me	Br
$CH_3$	CF <sub>3</sub>	$CF_2CHF_2$	Et	Br	Br	Br	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	CF <sub>3</sub>	CF <sub>2</sub> CHF <sub>2</sub>	<i>i-</i> Pr	Br	Br	Br	CF <sub>3</sub>	<i>i-</i> Pr	Br

<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 3	<u>R</u> 6
CH <sub>3</sub>	CF <sub>3</sub>	$CF_2CHF_2$	t-Bu	$\mathbf{Br}$	Br	Br	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	C1	CH <sub>2</sub> CF <sub>3</sub>	n-Pr	Cl	Br	Br	$CH_2CF_3$	Me	Cl
CH <sub>3</sub>	Cl	CH <sub>2</sub> CF <sub>3</sub>	n-Bu	Cl	Br	Br	$CH_2CF_3$	Et	Cl
CH <sub>3</sub>	Cl	CH <sub>2</sub> CF <sub>3</sub>	s-Bu	C1	Br	Br	$CH_2CF_3$	<i>i-</i> Pr	CI
CH <sub>3</sub>	<b>C</b> 1	$CH_2CF_3$	<i>i-</i> Bu	C1	Br	Br	$CH_2CF_3$	t-Bu	Cl
Cl	$\mathbf{F}$	CF <sub>3</sub>	Me	Cl	Br	Br	CH <sub>2</sub> CF <sub>3</sub>	Me	Br
C1	F	CF <sub>3</sub>	Et	Cl	Br	Br	$CH_2CF_3$	Et	Br
Cl	F	CF <sub>3</sub>	i-Pr	Cl	Br	Br	$CH_2CF_3$	i-Pr	Br
C1	F	CF <sub>3</sub>	t-Bu	Cl	Br	Br	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Br
C1	F	CF <sub>3</sub>	Me	Br	Br	Br	$CF_2CHF_2$	Me	Cl
C1	F	CF <sub>3</sub>	Et	Br	Br	Br	$CF_2CHF_2$	Et	C1
Cl	F	CF <sub>3</sub>	i-Pr	Br	Br	Br	$CF_2CHF_2$	i-Pr	C1
C1	F	CF <sub>3</sub>	t-Bu	Br	Br	Br	$CF_2CHF_2$	t-Bu	C1
Cl	F	$CH_2CF_3$	Me	Cl	Br	Br	$CF_2CHF_2$	Me	Br
C1	F	$CH_2CF_3$	Et	Cl	Br	Br	$CF_2CHF_2$	Et	Br
C1	$\mathbf{F}$	$CH_2CF_3$	i-Pr	CI	Br	Br	$CF_2CHF_2$	<i>i-</i> Pr	Br
C1	F	$CH_2CF_3$	t-Bu	Cl	Br	Br	$CF_2CHF_2$	t-Bu	Br
C1	F	$CH_2CF_3$	Me	Br	Br	I	CF <sub>3</sub>	Me	C1
C1	F	$CH_2CF_3$	Et	Br	Br	I	CF <sub>3</sub>	Et	C1
C1	F	$CH_2CF_3$	i-Pr	Br	Br	I	CF <sub>3</sub>	<i>i-</i> Pr	C1
C1	F	$CH_2CF_3$	t-Bu	Br	Br	I	CF <sub>3</sub>	t-Bu	C1
C1	F	$CF_2CHF_2$	Me	C1	Br	I	CF <sub>3</sub>	Me	Br
C1	F	$CF_2CHF_2$	Et	C1	Br	I	CF <sub>3</sub>	Et	Br
C1	F	$CF_2CHF_2$	i-Pr	C1	Br	I	CF <sub>3</sub>	i-Pr	Br
C1	F	$CF_2CHF_2$	t-Bu	C1	Br	I	CF <sub>3</sub>	t-Bu	Br
Cl	F	$CF_2CHF_2$	Me	Br	Br	Ι	$CH_2CF_3$	Me	C1
Cl	F	$CF_2CHF_2$	Et	Br	Br	Ι	$CH_2CF_3$	Et	C1
C1	F	$CF_2CHF_2$	i-Pr	Br	Br	I	$CH_2CF_3$	i-Pr	C1
Cl	F	$CF_2CHF_2$	t-Bu	Br	Br	I	$CH_2CF_3$	t-Bu	C1
C1	Cl	CF <sub>3</sub>	Me	C1	Br	I	$CH_2CF_3$	Me	Br
Cl	Cl	CF <sub>3</sub>	Et	C1	Br	I	$CH_2CF_3$	Et	Br
C1	Cl	CF <sub>3</sub>	i-Pr	C1	Br	Ι	$CH_2CF_3$	<i>i-</i> Pr	Br
C1	C1	CF <sub>3</sub>	t-Bu	C1	Br	I	$CH_2CF_3$	t-Bu	Br
C1	C1	CF <sub>3</sub>	Me	Br	Br	I	$CF_2CHF_2$	Me	C1
C1	Cl	CF <sub>3</sub>	Et	Br	Br	I	$CF_2CHF_2$	Et	Cl
C1	Cl	CF <sub>3</sub>	<i>i-</i> Pr	Br	Br	I	$CF_2CHF_2$	<i>i-</i> Pr	C1
C1	C1	CF <sub>3</sub>	<i>t-</i> Bu	Br	Br	I	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Cl

<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R<sup>9</sup></u>	$\underline{R^3}$	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 3	<u>R</u> 6
Cl	C1	CH <sub>2</sub> CF <sub>3</sub>	Me	C1	Br	I	$CF_2CHF_2$	Me	Br
C1	C1	CH <sub>2</sub> CF <sub>3</sub>	Et	<b>C</b> 1	Br	I	$CF_2CHF_2$	Et	Br
C1	C1	CH <sub>2</sub> CF <sub>3</sub>	<i>i</i> -Pr	C1	Br	I	$CF_2CHF_2$	i-Pr	Br
C1	C1	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Cl	Br	I	$CF_2CHF_2$	t-Bu	Br
C1	C1	$CH_2CF_3$	Me	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	Me	C1
CI	Cl	CH <sub>2</sub> CF <sub>3</sub>	Et	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	Et	Cl
Cl	Cl	CH <sub>2</sub> CF <sub>3</sub>	<i>i-</i> Pr	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	C1
C1	Cl	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Br	Br	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Cl
Cl	Cl	CF <sub>2</sub> CHF <sub>2</sub>	Me	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	Me	Br
Cl	Cl	CF <sub>2</sub> CHF <sub>2</sub>	Et	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	Et	Br
Cl	C1	CF <sub>2</sub> CHF <sub>2</sub>	i-Pr	Cl	Br	CF <sub>3</sub>	CF <sub>3</sub>	i-Pr	Br
C1	C1	$CF_2CHF_2$	t-Bu	C1	Br	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	Br
C1	Cl	CF <sub>2</sub> CHF <sub>2</sub>	Me	Br	Br	CF <sub>3</sub>	$CH_2CF_3$	Me	C1
C1	C1	CF <sub>2</sub> CHF <sub>2</sub>	Et	Br	Br	CF <sub>3</sub>	$CH_2CF_3$	Et	Cl
C1	C1	CF <sub>2</sub> CHF <sub>2</sub>	i-Pr	Br	Br	CF <sub>3</sub>	$CH_2CF_3$	i-Pr	Cl
Cl	C1	$CF_2CHF_2$	t-Bu	Br	Br	CF <sub>3</sub>	$CH_2CF_3$	t-Bu	Cl
C1	Br	CF <sub>3</sub>	Me	C1	Br	CF <sub>3</sub>	$CH_2CF_3$	Me	Br
C1	Br	CF <sub>3</sub>	Et	Cl	Br	CF <sub>3</sub>	$CH_2CF_3$	Et	Br
Cl	Br	CF <sub>3</sub>	<i>i-</i> Pr	Cl	Br	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	i-Pr	Br
C1	Br	CF <sub>3</sub>	t-Bu	Cl	Br	CF <sub>3</sub>	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Br
C1	Br	CF <sub>3</sub>	Me	Br	Br	CF <sub>3</sub>	$CF_2CHF_2$	Me	Cl
C1	Br	CF <sub>3</sub>	Et	Br	Br	CF <sub>3</sub>	$CF_2CHF_2$	Et	C1
C1	Br	CF <sub>3</sub>	i-Pr	Br	Br	CF <sub>3</sub>	CF <sub>2</sub> CHF <sub>2</sub>	i-Pr	C1
C1	Br	CF <sub>3</sub>	t-Bu	Br	Br	CF <sub>3</sub>	$CF_2CHF_2$	t-Bu	Cl
C1	Br	$CH_2CF_3$	Me	Cl	Br	CF <sub>3</sub>	CF <sub>2</sub> CHF <sub>2</sub>	Me	Br
C1	Br	$CH_2CF_3$	Et	Cl	Br	CF <sub>3</sub>	$CF_2CHF_2$	Et	Br
Cl	Br	$CH_2CF_3$	<i>i-</i> Pr	C1	Br	CF <sub>3</sub>	CF <sub>2</sub> CHF <sub>2</sub>	<i>i-</i> Pr	Br
Cl	Br	$CH_2CF_3$	t-Bu	Cl	Br	CF <sub>3</sub>	CF <sub>2</sub> CHF <sub>2</sub>	t-Bu	Br
$CH_3$	$\mathbf{H}$	CF <sub>3</sub>	Me	Cl	C1	H	CF <sub>3</sub>	Me	CI
CH <sub>3</sub>	$\mathbf{H}$	CF <sub>3</sub>	Et	C1	C1	H	CF <sub>3</sub>	Et	Cl
CH <sub>3</sub>	H	CF <sub>3</sub>	i-Pr	C1	Cl	H	CF <sub>3</sub>	i-Pr	C1
CH <sub>3</sub>	$\mathbf{H}$	CF <sub>3</sub>	t-Bu	C1	Cl	H	CF <sub>3</sub>	t-Bu	Cl
CH <sub>3</sub>	H	CF <sub>3</sub>	Me	Br	Cl	H	CF <sub>3</sub>	Me	Br
CH <sub>3</sub>	$\mathbf{H}$	CF <sub>3</sub>	Et	Br	Cl	H	CF <sub>3</sub>	Et	Br
CH <sub>3</sub>	$\mathbf{H}$	CF <sub>3</sub>	<i>i-</i> Pr	Br	Cl	Н	CF <sub>3</sub>	<i>i-</i> Pr	Br
CH <sub>3</sub>	H	CF <sub>3</sub>	t-Bu	Br	Cl	H	CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	H	$CH_2CF_3$	Me	Cl	Cl	H	CH <sub>2</sub> CF <sub>3</sub>	Me	C1

<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 3	<u>R</u> 6	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R<sup>9</sup></u>	$\underline{\mathbb{R}^3}$	<u>R</u> 6
CH <sub>3</sub>	H	CH <sub>2</sub> CF <sub>3</sub>	Et	Cl	C1	$\mathbf{H}$	$CH_2CF_3$	Et	C1
CH <sub>3</sub>	Н	$CH_2CF_3$	<i>i-</i> Pr	Cl	Cl	H	CH <sub>2</sub> CF <sub>3</sub>	i-Pr	C1
$CH_3$	H	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Cl	C1	H	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	C1
CH <sub>3</sub>	H	CH <sub>2</sub> CF <sub>3</sub>	Me	Br	C1	H	CH <sub>2</sub> CF <sub>3</sub>	Me	Br
$CH_3$	H	CH <sub>2</sub> CF <sub>3</sub>	Et	Br	Cl	$\mathbf{H}$	$CH_2CF_3$	Et	Br
CH <sub>3</sub>	$\mathbf{H}$	CH <sub>2</sub> CF <sub>3</sub>	<i>i-</i> Pr	Br	C1	$\mathbf{H}$	CH <sub>2</sub> CF <sub>3</sub>	i-Pr	Br
CH <sub>3</sub>	H	$CH_2CF_3$	t-Bu	Br	C1	H	CH <sub>2</sub> CF <sub>3</sub>	t-Bu	Br
CH <sub>3</sub>	H	$CF_2CHF_2$	Me	C1	Cl	$\mathbf{H}$	$CF_2CHF_2$	Me	C1
CH <sub>3</sub>	H	$CF_2CHF_2$	Et	C1	C1	$\mathbf{H}$	$CF_2CHF_2$	Et	C1
CH <sub>3</sub>	H	$CF_2CHF_2$	i-Pr	C1	Cl	H	$CF_2CHF_2$	<i>i-</i> Pr	C1
CH <sub>3</sub>	$\mathbf{H}$	$CF_2CHF_2$	t-Bu	Cl	C1	H	$CF_2CHF_2$	t-Bu	Cl
CH <sub>3</sub>	$\mathbf{H}$	$CF_2CHF_2$	Me	Br	C1	$\mathbf{H}$	$CF_2CHF_2$	Me	Br
CH <sub>3</sub>	$\mathbf{H}$	$CF_2CHF_2$	Et	Br	C1	H	CF <sub>2</sub> CHF <sub>2</sub>	Et	Br
CH <sub>3</sub>	H	$CF_2CHF_2$	i-Pr	Br	Cl	$\mathbf{H}$	$CF_2CHF_2$	i-Pr	Br
CH <sub>3</sub>	H	$CF_2CHF_2$	t-Bu	Br	C1	$\mathbf{H}$	$CF_2CHF_2$	t-Bu	Br
CH <sub>3</sub>	F	CHF <sub>2</sub>	Me	Cl	CH <sub>3</sub>	C1	$CHF_2$	Me	C1
CH <sub>3</sub>	F	CHF <sub>2</sub>	Et	Cl	CH <sub>3</sub>	C1	$CHF_2$	Et	C1
CH <sub>3</sub>	F	$CHF_2$	<i>i-</i> Pr	C1	СН3	C1	CHF <sub>2</sub>	<i>i-</i> Pr	C1
CH <sub>3</sub>	F	CHF <sub>2</sub>	t-Bu	C1	CH <sub>3</sub>	C1	CHF <sub>2</sub>	t-Bu	Cl
CH <sub>3</sub>	F	CHF <sub>2</sub>	Me	Br	СН3	C1	CHF <sub>2</sub>	Me	Br
CH <sub>3</sub>	F	CHF <sub>2</sub>	Et	Br	CH <sub>3</sub>	Cl	CHF <sub>2</sub>	Et	Br
CH <sub>3</sub>	F	CHF <sub>2</sub>	i-Pr	Br	СН3	Cl	CHF <sub>2</sub>	i-Pr	Br
$CH_3$	F	CHF <sub>2</sub>	t-Bu	Br	CH <sub>3</sub>	C1	CHF <sub>2</sub>	t-Bu	Br
Cl	F	CHF <sub>2</sub>	Me	Cl	C1	F	CHF <sub>2</sub>	Me	C1
Cl	F	CHF <sub>2</sub>	Et	Cl	C1	F	$CHF_2$	Et	C1
Cl	$\mathbf{F}$	$CHF_2$	i-Pr	C1	C1	F	CHF <sub>2</sub>	<i>i-</i> Pr	C1
C1	F	$CHF_2$	t-Bu	C1	C1	F	CHF <sub>2</sub>	t-Bu	Cl
C1	$\mathbf{F}$	$CHF_2$	Me	Br	C1	F	CHF <sub>2</sub>	Me	Br
C1	F	$CHF_2$	Et	Br	C1	F	CHF <sub>2</sub>	Et	Br
Cl	F	$CHF_2$	<i>i-</i> Pr	Br	Cl	F	CHF <sub>2</sub>	<i>i-</i> Pr	Br
Cl	F	CHF <sub>2</sub>	t-Bu	Br	C1	F	$CHF_2$	t-Bu	Br
$CH_3$	Br	CHF <sub>2</sub>	Me	C1	CH <sub>3</sub>	I	CHF <sub>2</sub>	Me	C1
CH <sub>3</sub>	Br	CHF <sub>2</sub>	Et	C1	CH <sub>3</sub>	Ι	CHF <sub>2</sub>	Et	C1
CH <sub>3</sub>	Br	CHF <sub>2</sub>	<i>i-</i> Pr	C1	CH <sub>3</sub>	I	CHF <sub>2</sub>	i-Pr	C1
CH <sub>3</sub>	Br	$CHF_2$	t-Bu	Cl	СН3	I	CHF <sub>2</sub>	t-Bu	Cl
CH <sub>3</sub>	Br	CHF <sub>2</sub>	Me	Br	СН3	1	CHF <sub>2</sub>	Me	Br
CH <sub>3</sub>	Br	$CHF_2$	Et	Br	СН3	I	$CHF_2$	Et	Br

<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 9	<u>R</u> 3	<u>R</u> 6	R <sup>4a</sup>	$R^{4b}$	$\mathbb{R}^9$	$\underline{\mathbf{R}^3}$	<u>R</u> 6
CH <sub>3</sub>	Br	$CHF_2$	<i>i-</i> Pr	Br	CH <sub>3</sub>	I	CHF <sub>2</sub>	i-Pr	Br
CH <sub>3</sub>	Br	CHF <sub>2</sub>	t-Bu	Br	CH <sub>3</sub>	I	CHF <sub>2</sub>	t-Bu	Br
C1	Br	CHF <sub>2</sub>	Me	Cl	Cl	I	CHF <sub>2</sub>	Me	Cl
C1	Br	$CHF_2$	Et	Cl	C1	I	CHF <sub>2</sub>	Et	Cl
C1	Br	$CHF_2$	i-Pr	C1	Cl	I	CHF <sub>2</sub>	<i>i-</i> Pr	Cl
Cl	Br	CHF <sub>2</sub>	t-Bu	CI	CI	I	CHF <sub>2</sub>	<i>t-</i> Bu	CI
C1	Br	CHF <sub>2</sub>	Me	Br	Cl	I	CHF <sub>2</sub>	Me	Br
C1	Br	CHF <sub>2</sub>	Et	Br	C1	I	CHF <sub>2</sub>	Et	Br
C1	Br	CHF <sub>2</sub>	i-Pr	Br	Cl	I	CHF <sub>2</sub>	<i>i-</i> Pr	Br
Cl	Br	$CHF_2$	t-Bu	Br	Cl	I	CHF <sub>2</sub>	t-Bu	Br
CH <sub>3</sub>	H	CHF <sub>2</sub>	Me	Br	Cl	H	CHF <sub>2</sub>	Me	Br
CH <sub>3</sub>	H	CHF <sub>2</sub>	Et	Br	C1	H	CHF <sub>2</sub>	Et	Br
CH <sub>3</sub>	H	CHF <sub>2</sub>	i-Pr	Br	C1	H	CHF <sub>2</sub>	i-Pr	Br
$CH_3$	H	CHF <sub>2</sub>	t-Bu	Br	Cl	H	CHF <sub>2</sub>	t-Bu	Br

Table 16

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$\mathbb{R}^3$	$\mathbb{R}^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R<sup>3</sup></u>	$R^{4a}$	$R^{4b}$	<u>R</u> 9	<u>R</u> 6
Me	3-Me	$\mathbf{H}$	CF <sub>3</sub>	F	Me	3-C1	H	CF <sub>3</sub>	F
Et	3-Me	5-Me	CHF <sub>2</sub>	F	Et	3-C1	5-Me	CHF <sub>2</sub>	F
i-Pr	3-Ме	H	$CHF_2$	F	<i>i-</i> Pr	3-C1	H	CHF <sub>2</sub>	F
t-Bu	3-Me	5-C1	CH <sub>2</sub> CF <sub>3</sub>	F	<i>t-</i> Bu	3-C1	5-C1	$CH_2CF_3$	F
Me	3-Me	$\mathbf{H}$	CH <sub>2</sub> CF <sub>3</sub>	F	Me	3-C1	H	$CH_2CF_3$	F
Et	3-Me	H	CF <sub>2</sub> CHF <sub>2</sub>	F	Et	3-C1	H	CF <sub>2</sub> CHF <sub>2</sub>	F
<i>i-</i> Pr	3-Me	5-Br	$CF_2CHF_2$	F	<i>i-</i> Pr	3-C1	5-Br	CF <sub>2</sub> CHF <sub>2</sub>	F
<i>t</i> -Bu	3-Me	H	Et	F	<i>t</i> -Bu	3-C1	H	Et	F
propargyl	3-Me	H	CF <sub>3</sub>	F	propargyl	3-C1	H	CF <sub>3</sub>	F
c-propyl	3-Me	H	CHF <sub>2</sub>	F	c-propyl	3-C1	$\mathbf{H}$	$CHF_2$	F
<i>i-</i> Pr	3-Ме	5-C1	CF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	F
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	t-Bu	3-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
					•				

<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	<u>R4b</u>	<u>R</u> 9	<u>R</u> 6
Me	3-Ме	5-Cl	i-C <sub>3</sub> F <sub>7</sub>	F	Me	3-C1	5-Cl	i-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$
Et	3-Me	H	<i>i-</i> Pr	F	Et	3-C1	$\mathbf{H}$	i-Pr	F
<i>i-</i> Pr	3-Me	H	CF <sub>3</sub>	F	<i>i-</i> Pr	3-C1	$\mathbf{H}$	CF <sub>3</sub>	F
t-Bu	3-Me	H	$C_2F_5$	F	<i>t-</i> Bu	3-C1	H	$C_2F_5$	F
propargyl	3-Me	H	$C_2F_5$	F	propargyl	3-C1	$\mathbf{H}$	$C_2F_5$	F
c-propyl	3-Me	H	CF <sub>3</sub>	F	c-propyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	F
<i>i</i> -Pr	3-Me	H	n-Pr	F	i-Pr	3-C1	$\mathbf{H}$	n-Pr	F
t-Bu	3-Me	5-Br	CH <sub>2</sub> CH <sub>2</sub> Cl	F	<i>t</i> -Bu	3-C1	5-Br	$CH_2CH_2Cl$	F
Me	3-Me	H	CF <sub>3</sub>	Cl	Me	3-C1	H	CF <sub>3</sub>	C1
Et	3-Me	5-Me	CHF <sub>2</sub>	C1	Et	3-C1	5-Me	CHF <sub>2</sub>	C1
i-Pr	3-Me	H	$CHF_2$	Cl	<i>i-</i> Pr	3-Cl	$\mathbf{H}$	CHF <sub>2</sub>	C1
t-Bu	3-Me	5-C1	$CH_2CF_3$	C1	t-Bu	3-Cl	5-C1	$CH_2CF_3$	C1
Me	3-Me	H	$CH_2CF_3$	Cl	Me	3-C1	$\mathbf{H}$	$CH_2CF_3$	C1
Et	3-Me	H	$CF_2CHF_2$	Cl	Et	3-C1	$\mathbf{H}$	$CF_2CHF_2$	C1
i-Pr	3-Me	5-Br	$CF_2CHF_2$	C1	<i>i-</i> Pr	3-C1	5-Br	CF <sub>2</sub> CHF <sub>2</sub>	C1
t-Bu	3-Me	H	Et	C1	<i>t-</i> Bu	3-C1	$\mathbf{H}$	Et	C1
propargyl	3-Me	H	CF <sub>3</sub>	Cl	propargyl	3-C1	H	CF <sub>3</sub>	C1
c-propyl	3-Me	H	CHF <sub>2</sub>	Cl	c-propyl	3-C1	H	CHF <sub>2</sub>	Cl
<i>i</i> -Pr	3-Me	5-C1	CF <sub>3</sub>	C1	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	C1
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	t-Bu	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1
Me	3-Me	5-C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	Me	3-C1	5-C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
Et	3-Me	H	<i>i-</i> Pr	C1	Et	3-C1	H	<i>i-</i> Pr	C1
<i>i</i> -Pr	3-Me	H	CF <sub>3</sub>	C1	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	C1
t-Bu	3-Me	H	$C_2F_5$	C1	<i>t</i> -Bu	3-C1	H	$C_2F_5$	Cl
propargyl	3-Me	H	$C_2F_5$	C1	propargyl	3-C1	H	$C_2F_5$	C1
c-propyl	3-Me	H	CF <sub>3</sub>	C1	c-propyl	3-C1	H	CF <sub>3</sub>	Cl
<i>i-</i> Pr	3-Me	H	n-Pr	C1	<i>i-</i> Pr	3-C1	H	n-Pr	C1
t-Bu	3-Me	5-Br	CH <sub>2</sub> CH <sub>2</sub> Cl	Cl	t-Bu	3-Cl	5-Br	CH <sub>2</sub> CH <sub>2</sub> CI	C1
Me	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	Me	3-C1	H	CF <sub>3</sub>	CF <sub>3</sub>
Et	3-Me	5-Me	CHF <sub>2</sub>	CF <sub>3</sub>	Et	3-C1	5-Me	CHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	3-Me	H	CHF <sub>2</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	H	$CHF_2$	CF <sub>3</sub>
t-Bu	3-Me	5-C1	$CH_2CF_3$	CF <sub>3</sub>	t-Bu	3-C1	5-C1	$CH_2CF_3$	CF <sub>3</sub>
Me	3-Me	H	$CH_2CF_3$	CF <sub>3</sub>	Me	3-C1	H	CH <sub>2</sub> CF <sub>3</sub>	CF <sub>3</sub>
Et	3-Me	H	$CF_2CHF_2$	CF <sub>3</sub>	Et	3-C1	H	CF <sub>2</sub> CHF <sub>2</sub>	CF <sub>3</sub>
i-Pr	3-Me	5-Br	$CF_2CHF_2$	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-Br	CF <sub>2</sub> CHF <sub>2</sub>	CF <sub>3</sub>
<i>t</i> -Bu	3-Me	$\mathbf{H}$	Et	$CF_3$	<i>t-</i> Bu	3-C1	H	Et	CF <sub>3</sub>
propargyl	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	propargyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	CF <sub>3</sub>

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<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	R <sup>3</sup>	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	$\mathbb{R}^9$	<u>R</u> 6
c-propyl	3-Me	H	CHF <sub>2</sub>	CF <sub>3</sub>	c-propyl	3-C1	$\mathbf{H}$	CHF <sub>2</sub>	CF <sub>3</sub>
i-Pr	3-Me	5-C1	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	t-Bu	3-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	3-Me	5-C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	3-C1	5-C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	3-Me	H	i-Pr	CF <sub>3</sub>	Et	3-C1	$\mathbf{H}$	i-Pr	CF <sub>3</sub>
i-Pr	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	$\mathbf{H}$	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	3-Me	H	$C_2F_5$	CF <sub>3</sub>	<i>t-</i> Bu	3-C1	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>
propargyl	3-Me	H	$C_2F_5$	CF <sub>3</sub>	propargyl	3-C1	H	$C_2F_5$	CF <sub>3</sub>
c-propyl	3-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	c-propyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	CF <sub>3</sub>
<i>i</i> -Pr	3-Me	H	n-Pr	CF <sub>3</sub>	<i>i-</i> Pr	3-C1	$\mathbf{H}$	n-Pr	CF <sub>3</sub>
t-Bu	3-Me	5-Br	$CH_2CH_2CI$	CF <sub>3</sub>	<i>t</i> -Bu	3-C1	5-Br	CH <sub>2</sub> CH <sub>2</sub> Cl	CF <sub>3</sub>
Me	3-Me	H	CF <sub>3</sub>	Br	Me	3-C1	H	CF <sub>3</sub>	Br
Et	3-Me	5-Me	CHF <sub>2</sub>	Br	Et	3-C1	5-Me	CHF <sub>2</sub>	Br
i-Pr	3-Me	H	CHF <sub>2</sub>	Br	<i>i-</i> Pr	3-C1	$\mathbf{H}$	CHF <sub>2</sub>	Br
t-Bu	3-Me	5-C1	CH <sub>2</sub> CF <sub>3</sub>	Br	<i>t-</i> Bu	3-C1	5-C1	$CH_2CF_3$	Br
Me	3-Me	H	CH <sub>2</sub> CF <sub>3</sub>	Br	Ме	3-C1	$\mathbf{H}$	$CH_2CF_3$	Br
Et	3-Me	H	$CF_2CHF_2$	Br	Et	3-C1	$\mathbf{H}$	$CF_2CHF_2$	Br
<i>i</i> -Pr	3-Me	5-Br	$CF_2CHF_2$	Br	<i>i-</i> Pr	3-C1	5-Br	$CF_2CHF_2$	Br
t-Bu	3-Me	H	Et	Br	<i>t-</i> Bu	3-C1	$\mathbf{H}$	Et	Br
propargyl	3-Me	H	CF <sub>3</sub>	Br	propargyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	Br
c-propyl	3-Me	H	CHF <sub>2</sub>	Br	c-propyl	3-C1	$\mathbf{H}$	CHF <sub>2</sub>	Br
i-Pr	3-Me	5-C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	5-C1	CF <sub>3</sub>	Br
t-Bu	3-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	3-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br
Me	3-Me	5-C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	3-C1	5-C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	3-Me	H	i-Pr	Br	Et	3-C1	$\mathbf{H}$	<i>i</i> -Pr	Br
<i>i-</i> Pr	3-Me	H	CF <sub>3</sub>	Br	<i>i-</i> Pr	3-C1	H	CF <sub>3</sub>	Br
t-Bu	3-Me	H	$C_2F_5$	Br	<i>t-</i> Bu	3-C1	$\mathbf{H}$	$C_2F_5$	Br
propargyl	3-Me	H	$C_2F_5$	Br	propargyl	3-C1	H	$C_2F_5$	Br
c-propyl	3-Me	H	CF <sub>3</sub>	Br	c-propyl	3-C1	$\mathbf{H}$	CF <sub>3</sub>	Br
i-Pr	3-Me	$\mathbf{H}$	n-Pr	Br	<i>i-</i> Pr	3-C1	$\mathbf{H}$	n-Pr	Br
t-Bu	3-Me	5-Br	CH <sub>2</sub> CH <sub>2</sub> Cl	Br	<i>t-</i> Bu	3-C1	5-Br	CH <sub>2</sub> CH <sub>2</sub> CI	Br
Me	6-Me	$\mathbf{H}$	$CHF_2$	F	Me	6-C1	H	CHF <sub>2</sub>	F
Et	6-Ме	$\mathbf{H}$	CHF <sub>2</sub>	F	Et	6-C1	$\mathbf{H}$	CHF <sub>2</sub>	F
<i>i</i> -Pr	6-Ме	$\mathbf{H}$	CHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	$\mathbf{H}$	CHF <sub>2</sub>	F
t-Bu	6-Ме	H	CHF <sub>2</sub>	F	<i>t-</i> Bu	6-C1	H	CHF <sub>2</sub>	F
Me	6-Me	H	n-Pr	F	Ме	6-C1	$\mathbf{H}$	<i>n</i> -Pr	F
Et	6-Ме	Н	n-Pr	F	Et	6-C1	H	n-Pr	F
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<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	R4a	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6
<i>i</i> -Pr	6-Me	H	<i>n</i> -Pr	F	<i>i-</i> Pr	6-C1	H	n-Pr	F
t-Bu	6-Ме	H	n-Pr	F	<i>t</i> -Bu	6-C1	$\mathbf{H}$	n-Pr	F
Me	6-Ме	H	CF <sub>3</sub>	F	Ме	6-C1	H	CF <sub>3</sub>	F
Et	6-Me	$\mathbf{H}$	CF <sub>3</sub>	F	Et	6-C1	$\mathbf{H}$	CF <sub>3</sub>	F
<i>i</i> -Pr	6-Me	H	CF <sub>3</sub>	F	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	F
t-Bu	6-Ме	H	CF <sub>3</sub>	F	<i>t</i> -Bu	6-CI	H	CF <sub>3</sub>	F
Me	6-Me	$\mathbf{H}$	i-Pr	F	Me	6-C1	H	i-Pr	F
Et	6-Ме	H	i-Pr	F	Et	6-C1	$\mathbf{H}$	i-Pr	F
i-Pr	6-Me	H	i-Pr	F	<i>i-</i> Pr	6-C1	$\mathbf{H}$	i-Pr	F
t-Bu	6-Me	H	<i>i-</i> Pr	F	t-Bu	6-C1	H	i-Pr	F
Me	6-Me	H	$C_2F_5$	F	Me	6-C1	H	$C_2F_5$	F
Et	6-Ме	H	$C_2F_5$	F	Et	6-C1	H	$C_2F_5$	F
<i>i-</i> Pr	6-Me	$\mathbf{H}$	$C_2F_5$	F	<i>i-</i> Pr	6-C1	H	$C_2F_5$	F
t-Bu	6-Ме	H	$C_2F_5$	F	<i>t</i> -Bu	6-C1	H	$C_2F_5$	F
Me	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F
Et	6-Ме	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F
<i>i</i> -Pr	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Ме	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F	<i>t</i> -Bu	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Ме	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	· <b>F</b>
<i>i-</i> Pr	6-Ме	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	t-Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	H	Et	F	Me	6-C1	H	Et	F
Et	6-Me	H	Et	F	Et	6-C1	H	Et	F
<i>i-</i> Pr	6-Me	H	Et	F	<i>i-</i> Pr	6-C1	$\mathbf{H}$	Et	F
t-Bu	6-Ме	H	Et	F	t-Bu	6-C1	H	Et	F
Me	6-Me	H	CHF <sub>2</sub>	C1	Me	6-C1	H	CHF <sub>2</sub>	Cl
Et	6-Me	H	CHF <sub>2</sub>	Cl	Et	6-C1	H	CHF <sub>2</sub>	Cl
<i>i-</i> Pr	6-Me	H	CHF <sub>2</sub>	Cl	<i>i-</i> Pr	6-C1	H	CHF <sub>2</sub>	C1
t-Bu	6-Ме	H	CHF <sub>2</sub>	C1	<i>t-</i> Bu	6-C1	H	CHF <sub>2</sub>	C1
Me	6-Me	H	n-Pr	C1	Me	6-C1	H	n-Pr	Cl
Et	6-Me	H	n-Pr	Cl	Et	6-C1	H	n-Pr	C1
i-Pr	6-Ме	H	n-Pr	Cl	<i>i-</i> Pr	6-C1	H	n-Pr	C1
t-Bu	6-Me	H	n-Pr	Cl	t-Bu	6-C1	H	n-Pr	Cl
Me	6-Ме	H	CF <sub>3</sub>	C1	Me	6-C1	H	CF <sub>3</sub>	C1
Et	6-Ме	H	CF <sub>3</sub>	C1	Et	6-Cl		CF <sub>3</sub>	Cl
<i>i-</i> Pr	6-Ме	H	CF <sub>3</sub>	Cl	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	C1

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<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6
t-Bu	6-Me	Н	CF <sub>3</sub>	C1	t-Bu	6-C1	H	CF <sub>3</sub>	C1
Me	6-Ме	H	<i>i-</i> Pr	C1	Me	6-C1	$\mathbf{H}$	i-Pr	C1
Et	6-Me	$\mathbf{H}$	<i>i-</i> Pr	C1	Et	6-C1	H	<i>i</i> -Pr	C1
<i>i-</i> Pr	6-Me	H	<i>i-</i> Pr	C1	<i>i-</i> Pr	6-C1	H	<i>i</i> -Pr	C1
t-Bu	6-Me	$\mathbf{H}$	<i>i-</i> Pr	C1	t-Bu	6-C1	H	<i>i</i> -Pr	Cl
Me	6-Ме	H	$C_2F_5$	C1	Me	6-C1	$\mathbf{H}$	$C_2F_5$	Cl
Et	6-Me	H	$C_2F_5$	C1	Et	6-C1	H	$C_2F_5$	C1
<i>i-</i> Pr	6-Me	H	$C_2F_5$	C1	<i>i-</i> Pr	6-C1	$\mathbf{H}$	$C_2F_5$	Cl
t-Bu	6-Me	H	$C_2F_5$	C1	t-Bu	6-C1	H	$C_2F_5$	Cl
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl
Et	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl
<i>i</i> -Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	t-Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl
Me	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	C1	Me	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	C1
<i>i-</i> Pr	6-Me	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	C1	t-Bu	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Me	$\mathbf{H}$	Et	C1	Me	6-C1	$\mathbf{H}$	Et	Cl
Et	6-Me	H	Et	C1	Et	6-C1	H	Et	Cl
<i>i-</i> Pr	6-Ме	H	Et	C1	<i>i-</i> Pr	6-C1	H	Et	Cl
t-Bu	6-Me	H	Et	C1	<i>t</i> -Bu	6-C1	$\mathbf{H}$	Et	Cl
Me	6-Ме	H	CHF <sub>2</sub>	Br	Me	6-C1	$\mathbf{H}$	CHF <sub>2</sub>	Br
Et	6-Ме	H	CHF <sub>2</sub>	Br	Et	6-C1	H	CHF <sub>2</sub>	Br
<i>i</i> -Pr	6-Me	H	CHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	H	CHF <sub>2</sub>	Br
t-Bu	6-Ме	H	CHF <sub>2</sub>	Br	t-Bu	6-C1	$\mathbf{H}$	CHF <sub>2</sub>	Br
Me	6-Me	H	n-Pr	Br	Me	6-C1	H	n-Pr	Br
Et	6-Me	H	n-Pr	Br	Et	6-C1	$\mathbf{H}$	n-Pr	Br
<i>i-</i> Pr	6-Me	H	n-Pr	Br	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-Pr	Br
t-Bu	6-Me	H	n-Pr	Br	t-Bu	6-C1	H	n-Pr	Br
Me	6-Me	H	CF <sub>3</sub>	Br	Me	6-C1	H	CF <sub>3</sub>	Br
Et	6-Me	H	CF <sub>3</sub>	Br	Et	6-C1	H	CF <sub>3</sub>	Br
<i>i-</i> Pr	6-Me	$\mathbf{H}$	CF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	$\mathbf{H}$	CF <sub>3</sub>	Br
t-Bu	6-Me	H	CF <sub>3</sub>	Br	<i>t</i> -Bu	6-C1	H	CF <sub>3</sub>	Br
Me	6-Me	H	<i>i-</i> Pr	Br	Me	6-C1	Н	<i>i-</i> Pr	Br
Et	6-Me	Н	<i>i-</i> Pr	Br	Et	6-C1	H	<i>i-</i> Pr	Br
i-Pr	6-Me	Н	<i>i-</i> Pr	Br	<i>i-</i> Pr	6-C1	H	<i>i-</i> Pr	Br
<i>t-</i> Bu	6-Me	H	<i>i-</i> Pr	Br	<i>t-</i> Bu	6-C1	H	i-Pr	Br

<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	R4a	<u>R<sup>4b</sup></u>	<u>R<sup>9</sup></u>	<u>R</u> 6
Me	6-Ме	$\mathbf{H}$	$C_2F_5$	Br	Me	6-C1	H	$C_2F_5$	Br
Et	6-Ме	H	$C_2F_5$	Br	Et	6-C1	H	$C_2F_5$	Br
<i>i-</i> Pr	6-Ме	H	$C_2F_5$	Br	<i>i-</i> -Pr	6-Cl	H	$C_2F_5$	Br
t-Bu	6-Ме	H	$C_2F_5$	Br	t-Bu	6-C1	$\mathbf{H}$	$C_2F_5$	Br
Me	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Br
<i>i-</i> Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	6-Cl	H	n-C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-Cl	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-Cl	H	i-C <sub>3</sub> F <sub>7</sub>	Br
<i>i</i> -Pr	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	Br	<i>i</i> -Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Ме	H	i-C <sub>3</sub> F <sub>7</sub>	Br	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	H	Et	Br	Me	6-C1	H	Et	Br
Et	6-Me	H	Et	Br	Et	6-Cl	H	Et	Br
i-Pr	6-Me	H	Et	Br	<i>i</i> -Pr	6-Cl	H	Et	Br
t-Bu	6-Me	H	Et	Br	t-Bu	6-C1	H	Et	Br
Me	6-Me	H	CHF <sub>2</sub>	CF <sub>3</sub>	Me	6-Cl	H	CHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Ме	H	CHF <sub>2</sub>	CF <sub>3</sub>	Et	6-Cl	H	$CHF_2$	CF <sub>3</sub>
i-Pr	6-Me	H	$CHF_2$	CF <sub>3</sub>	<i>i</i> -Pr	6-C1	H	CHF <sub>2</sub>	CF <sub>3</sub>
t-Bu	6-Ме	H	CHF <sub>2</sub>	CF <sub>3</sub>	t-Bu	6-Cl	H	$CHF_2$	CF <sub>3</sub>
Me	6-Me	H	<i>n</i> -Pr	CF <sub>3</sub>	Me	6-Cl	H	n-Pr	CF <sub>3</sub>
Et	6-Me	H	n-Pr	CF <sub>3</sub>	Et	6-Cl	H	n-Pr	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	n-Pr	CF <sub>3</sub>	<i>i</i> -Pr	6-Cl	H	n-Pr	CF <sub>3</sub>
t-Bu	6-Me	H	n-Pr	CF <sub>3</sub>	t-Bu	6-Cl	H	n-Pr	CF <sub>3</sub>
Me	6-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	Me	6-Cl	H	CF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	Et	6-Cl	H	CF <sub>3</sub>	CF <sub>3</sub>
i-Pr	6-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-Cl	H	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	t-Bu	6-Cl	H	CF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	H	<i>i</i> -Pr	CF <sub>3</sub>	Me	6-C1	H	i-Pr	CF <sub>3</sub>
Et	6-Me	H	<i>i-</i> Pr	CF <sub>3</sub>	Et	6-Cl	H	<i>i</i> -Pr	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	H	i-Pr	CF <sub>3</sub>	<i>i-</i> Pr	6-Cl	H	<i>i-</i> Pr	CF <sub>3</sub>
t-Bu	6-Me	H	i-Pr	CF <sub>3</sub>	t-Bu	6-C1	H	<i>i-</i> Pr	CF <sub>3</sub>
Me	6-Me	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	Me	6-C1	H	$C_2F_5$	CF <sub>3</sub>
Et	6-Me	H	$C_2F_5$	CF <sub>3</sub>	Et	6-Cl	H	$C_2F_5$	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	H	$C_2F_5$	CF <sub>3</sub>	i-Pr	6-Cl	H	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Ме	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	Н	$C_2F_5$	CF <sub>3</sub>
Me	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-Cl	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>

<u>R</u> 3	R <sup>4</sup> a	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R<sup>9</sup></u>	<u>R</u> 6
Et	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
i-Pr	6-Ме	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>t-</i> Bu	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	t-Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Ме	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	Н	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i</i> -Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Me	H	Et	CF <sub>3</sub>	Me	6-C1	Н	Et	CF <sub>3</sub>
Et	6-Ме	H	Et	CF <sub>3</sub>	Et	6-C1	H	Et	CF <sub>3</sub>
i-Pr	6-Ме	H	Et	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	H	Et	CF <sub>3</sub>
t-Bu	6-Ме	H	Et	CF <sub>3</sub>	t-Bu	6-C1	H	Et	CF <sub>3</sub>
Me	6-Me	Cl	CHF <sub>2</sub>	F	Me	6-C1	Cl	CHF <sub>2</sub>	F
Et	6-Me	C1	$CHF_2$	F	Et	6-C1	Cl	$CHF_2$	F
i-Pr	6-Me	C1	CHF <sub>2</sub>	F	<i>i-</i> Pr	6-C1	<b>C</b> l	$CHF_2$	F
t-Bu	6-Me	C1	CHF <sub>2</sub>	F	<i>t-</i> Bu	6-C1	Cl	$CHF_2$	F
Me	6-Me	Cl	n-Pr	F	Me	6-C1	Cl	n-Pr	F
Et	6-Me	C1	n-Pr	F	Et	6-C1	C1	n-Pr	F
<i>i</i> -Pr	6-Ме	C1	<i>n</i> -Pr	F	<i>i-</i> Pr	6-Cl	C1	n-Pr	F
t-Bu	6-Ме	C1	n-Pr	F	<i>t-</i> Bu	6-C1	C1	n-Pr	F
Me	6-Me	C1	CF <sub>3</sub>	F	Me	6-C1	C1	CF <sub>3</sub>	F
Et	6-Me	C1	CF <sub>3</sub>	F	Et	6-C1	C1	CF <sub>3</sub>	F
<i>i-</i> Pr	6-Me	C1	CF <sub>3</sub>	F	<i>i-</i> Pr	6-Cl	<b>C</b> 1	CF <sub>3</sub>	F
t-Bu	6-Me	C1	CF <sub>3</sub>	F	<i>t</i> -Bu	6-C1	C1	CF <sub>3</sub>	F
Me	6-Me	Cl	i-Pr	F	Me	6-C1	C1	<i>i-</i> Pr	F
Et	6-Ме	C1	i-Pr	F	Et	6-Cl	C1	<i>i-</i> Pr	F
<i>i-</i> Pr	6-Me	Cl	<i>i</i> -Pr	F	<i>i-</i> Pr	6-C1	C1	i-Pr	F
t-Bu	6-Me	Cl	i-Pr	F	t-Bu	6-Cl	Cl	<i>i-</i> Pr	F
Me	6-Me	C1	$C_2F_5$	F	Me	6-C1	C1	$C_2F_5$	$\mathbf{F}$
Et	6-Ме	Cl	$C_2F_5$	F	Et	6-C1	C1	$C_2F_5$	F
i-Pr	6-Ме	Cl	$C_2F_5$	F	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	F
t-Bu	6-Ме	Cl	$C_2F_5$	F	<i>t</i> -Bu	6-C1	C1	$C_2F_5$	F
Me	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F
Et	6-Ме	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	C1	n-C3F7	F
i-Pr	6-Me	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$
t-Bu	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	<i>t-</i> Bu	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	F
Me	6-Ме	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	F
Et	6-Ме	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F

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<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	R4b	<u>R</u> 9	<u>R</u> 6
<i>i-</i> Pr	6-Ме	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F
t-Bu	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	<i>t-</i> Bu	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F
Me	6-Me	CI	Et	F	Me	6-C1	C1	Et	F
Et	6-Ме	C1	Et	F	Et	6-Cl	C1	Et	F
<i>i-</i> Pr	6-Me	Cl	Et	F	<i>i-</i> Pr	6-C1	Cl	Et	F
t-Bu	6-Me	Cl	Et	F	<i>t</i> -Bu	6-C1	Cl	Et	F
Me	6-Me	Cl	$CHF_2$	C1	Ме	6-C1	Cl	CHF <sub>2</sub>	C1
Et	6-Me	C1	CHF <sub>2</sub>	Cl	Et	6-C1	C1	CHF <sub>2</sub>	Cl
i-Pr	6-Me	Cl	$CHF_2$	Cl	<i>i-</i> Pr	6-C1	Cl	CHF <sub>2</sub>	C1
t-Bu	6-Me	Cl	$CHF_2$	C1	t-Bu	6-C1	Cl	CHF <sub>2</sub>	C1
Me	6-Me	Cl	n-Pr	Cl	Me	6-C1	C1	n-Pr	Cl
Et	6-Me	Cl	<i>n</i> -Pr	Cl	Et	6-C1	C1	<i>n</i> -Pr	C1
<i>i-</i> Pr	6-Me	Cl	<i>n</i> -Pr	Cl	<i>i-</i> Pr	6-C1	C1	n-Pr	C1
t-Bu	6-Me	C1	n-Pr	Cl	<i>t-</i> Bu	6-C1	Cl	n-Pr	C1
Me	6-Me	C1	CF <sub>3</sub>	C1	Me	6-C1	Cl	CF <sub>3</sub>	C1
Et	6-Me	Cl	CF <sub>3</sub>	C1	Et	6-C1	Cl	CF <sub>3</sub>	Cl
i-Pr	6-Me	Cl	CF <sub>3</sub>	Cl	<i>i-</i> Pr	6-C1	Cl	CF <sub>3</sub>	Cl
t-Bu	6-Me	C1	CF <sub>3</sub>	C1	<i>t</i> -Bu	6-C1	C1	CF <sub>3</sub>	C1
Me	6-Me	C1	i-Pr	C1	Ме	6-C1	C1	<i>i-</i> Pr	C1
Et	6-Me	C1	i-Pr	C1	Et	6-C1	Cl	<i>i-</i> Pr	Cl
i-Pr	6-Me	C1	<i>i-</i> Pr	C1	<i>i-</i> Pr	6-C1	Cl	<i>i-</i> Pr	C1
t-Bu	6-Me	Cl	i-Pr	C1	<i>t-</i> Bu	6-C1	Cl	<i>i-</i> Pr	C1
Me	6-Me	C1	$C_2F_5$	C1	Ме	6-C1	C1	$C_2F_5$	Cl
Et	6-Me	C1	$C_2F_5$	C1	Et	6-C1	C1	$C_2F_5$	Cl
i-Pr	6-Me	C1	$C_2F_5$	C1	<i>i-</i> Pr	6-Cl	Cl	$C_2F_5$	C1
t-Bu	6-Me	C1	$C_2F_5$	Cl	<i>t</i> -Bu	6-C1	Cl	$C_2F_5$	C1
Me	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl	Ме	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl
<i>i-</i> Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl	<i>i-</i> Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl
t-Bu	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Cl	<i>t</i> -Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	C1
Et	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	Et	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
i-Pr	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	<i>i-</i> Pr	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
t-Bu	6-Ме	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	t-Bu	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1
Me	6-Me	C1	Et	C1	Me	6-C1	Cl	Et	C1
Et	6-Ме	C1	Et	Cl	Et	6-C1	C1	Et	Cl
<i>i-</i> Pr	6-Me	C1	Et	Cl	<i>i-</i> Pr	6-C1	Cl	Et	C1

					-				
<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6
t-Bu	6-Ме	C1	Et	CI	<i>t-</i> Bu	6-C1	C1	Et	C1
Me	6-Ме	C1	$CHF_2$	Br	Ме	6-C1	C1	$CHF_2$	Br
Et	6-Me	C1	$CHF_2$	Br	Et	6-C1	C1	CHF <sub>2</sub>	Br
i-Pr	6-Me	C1	CHF <sub>2</sub>	Br	<i>i-</i> Pr	6-C1	Cl	$CHF_2$	Br
t-Bu	6-Me	C1	CHF <sub>2</sub>	Br	<i>t</i> -Bu	6-C1	C1	CHF <sub>2</sub>	Br
Me	6-Me	Cl	n-Pr	Br	Me	6-C1	C1	n-Pr	Br
Et	6-Me	C1	n-Pr	Br	Et	6-C1	C1	n-Pr	Br
i-Pr	6-Me	Cl	n-Pr	Br	<i>i-</i> Pr	6-C1	C1	n-Pr	Br
t-Bu	6-Me	Cl	n-Pr	Br	t-Bu	6-C1	C1	<i>n</i> -Pr	Br
Me	6-Me	Cl	CF <sub>3</sub>	Br	Me	6-C1	C1	CF <sub>3</sub>	Br
Et	6-Me	C1	CF <sub>3</sub>	Br	Et	6-C1	C1	CF <sub>3</sub>	$\operatorname{Br}$
i-Pr	6-Me	C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	6-C1	C1	CF <sub>3</sub>	Br
t-Bu	6-Me	C1	CF <sub>3</sub>	Br	<i>t-</i> Bu	6-C1	C1	CF <sub>3</sub>	Br
Me	6-Me	C1	<i>i-</i> Pr	Br	Me	6-C1	C1	<i>i-</i> Pr	Br
Et	6-Me	C1	<i>i-</i> Pr	Br	Et	6-C1	C1	<i>i-</i> Pr	Br
<i>i-</i> Pr	6-Me	C1	<i>i-</i> Pr	Br	<i>i-</i> Pr	6-C1	C1	<i>i-</i> Pr	Br
t-Bu	6-Me	C1	<i>i-</i> Pr	Br	t-Bu	6-C1	C1	<i>i-</i> Pr	Br
Me	6-Me	C1	$C_2F_5$	Br	Me	6-C1	C1	$C_2F_5$	Br
Et	6-Me	C1	$C_2F_5$	Br	Et	6-C1	C1	$C_2F_5$	Br
i-Pr	6-Me	C1	$C_2F_5$	Br	i-Pr	6-C1	C1	$C_2F_5$	Br
t-Bu	6-Me	C1	$C_2F_5$	Br	<i>t</i> -Bu	6-C1	C1	$C_2F_5$	Br
Me	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br
i-Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>t-</i> Bu	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Me	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Et	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	Et	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
<i>i-</i> Pr	6-Ме	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>i-</i> Pr	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
t-Bu	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	<i>t-</i> Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br
Me	6-Me	Cl	Et	Br	Me	6-Cl	C1	Et	Br
Et	6-Me	Cl	Et	Br	Et	6-C1	C1	Et	Br
<i>i-</i> Pr	6-Me	C1	Et	Br	<i>i-</i> Pr	6-C1	C1	Et	Br
t-Bu	6-Me	C1	Et	Br	<i>t-</i> Bu	6-C1	C1	Et	Br
Me	6-Me	C1	CHF <sub>2</sub>	CF <sub>3</sub>	Me	6-C1	C1	CHF <sub>2</sub>	CF <sub>3</sub>
Et	6-Me	C1	CHF <sub>2</sub>	CF <sub>3</sub>	Et	6-C1	C1	CHF <sub>2</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	C1	CHF <sub>2</sub>	CF <sub>3</sub>	i-Pr	6-C1	C1	CHF <sub>2</sub>	CF <sub>3</sub>
<i>t</i> -Bu	6-Ме	Cl	CHF <sub>2</sub>	CF <sub>3</sub>	t-Bu	6-C1	Cl	CHF <sub>2</sub>	CF <sub>3</sub>

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$\underline{\mathbb{R}^3}$	R <sup>4a</sup>	$\underline{R^{4b}}$	<u>R</u> 9	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>R4b</u>	<u>R</u> 9	<u>R</u> 6
Me	6-Ме	Cl	n-Pr	CF <sub>3</sub>	Ме	6-C1	Cl	n-Pr	CF <sub>3</sub>
Et	6-Ме	Cl	n-Pr	CF <sub>3</sub>	Et	6-C1	Cl	$n ext{-}\!\operatorname{Pr}$	CF <sub>3</sub>
i-Pr	6-Me	C1	n-Pr	CF <sub>3</sub>	i-Pr	6-Cl	Cl	n-Pr	CF <sub>3</sub>
t-Bu	6-Ме	Cl	n-Pr	CF <sub>3</sub>	<i>t</i> -Bu	6-Cl	Cl	n-Pr	CF <sub>3</sub>
Me	6-Me	C1	CF <sub>3</sub>	CF <sub>3</sub>	Ме	6-C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>
Et	6-Me	C1	CF <sub>3</sub>	CF <sub>3</sub>	Et	6-C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>
i-Pr	6-Ме	C1	CF <sub>3</sub>	CF <sub>3</sub>	i-Pr	6-C1	C1	CF <sub>3</sub>	CF <sub>3</sub>
t-Bu	6-Me	Cl	CF <sub>3</sub>	CF <sub>3</sub>	· t-Bu	6-C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>
Me	6-Me	Cl	<i>i-</i> Pr	CF <sub>3</sub>	Me	6-C1	C1	i-Pr	CF <sub>3</sub>
Et	6-Ме	Cl	<i>i-</i> Pr	CF <sub>3</sub>	Et	6-Cl	C1	i-Pr	CF <sub>3</sub>
i-Pr	6-Me	C1	<i>i-</i> Pr	CF <sub>3</sub>	<i>i-</i> Pr	6-Cl	Cl	<i>i-</i> Pr	CF <sub>3</sub>
t-Bu	6-Ме	C1	i-Pr	CF <sub>3</sub>	t-Bu	6-C1	C1	i-Pr	CF <sub>3</sub>
Me	6-Ме	C1	$C_2F_5$	CF <sub>3</sub>	Me	6-C1	C1	$C_2F_5$	CF <sub>3</sub>
Et	6-Ме	C1	$C_2F_5$	CF <sub>3</sub>	Et	6-C1	C1	$C_2F_5$	CF <sub>3</sub>
<i>i</i> -Pr	6-Ме	C1	$C_2F_5$	CF <sub>3</sub>	<i>i-</i> Pr	6-Cl	C1	$C_2F_5$	CF <sub>3</sub>
t-Bu	6-Ме	C1	$C_2F_5$	CF <sub>3</sub>	<i>t</i> -Bu	6-C1	C1	$C_2F_5$	CF <sub>3</sub>
Me	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Ме	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	t-Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Et	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	Et	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
i-Pr	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
t-Bu	6-Ме	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	t-Bu	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>
Me	6-Ме	C1	Et	CF <sub>3</sub>	Me	6-C1	C1	Et	CF <sub>3</sub>
Et	6-Me	C1	Et	CF <sub>3</sub>	Et	6-C1	Cl	Et	CF <sub>3</sub>
<i>i-</i> Pr	6-Me	Cl	Et	CF <sub>3</sub>	<i>i-</i> Pr	6-C1	C1	Et	CF <sub>3</sub>
t-Bu	6-Ме	C1	Et	CF <sub>3</sub>	t-Bu	6-C1	C1	Et	CF <sub>3</sub>

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Table 17

$\underline{\mathbb{R}^3}$	R <sup>4a</sup>	R4b	<u>R</u> 9	<u>R</u> 6	X	<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	X
Me	6-Me	H	CHF <sub>2</sub>	F	CH	Me	6-C1	H	CHF <sub>2</sub>	F	CH
Et	6-Me	H	CHF <sub>2</sub>	F	CH	Et	6-C1	H	CHF <sub>2</sub>	F	CH
i-Pr	6-Me	H	CHF <sub>2</sub>	F	CH	<i>i-</i> Pr	6-C1	H	CHF <sub>2</sub>	F	CH
t-Bu	6-Me	$\mathbf{H}$	$CHF_2$	F	СН	<i>t-</i> Bu	6-C1	$\mathbf{H}$	CHF <sub>2</sub>	F	CH
Me	6-Ме	$\mathbf{H}$	n-Pr	F	CH	Ме	6-C1	$\mathbf{H}$	n-Pr	F	CH
Et	6-Me	$\mathbf{H}$	n-Pr	F	CH	Et	6-C1	$\mathbf{H}$	n-Pr	F	CH
i-Pr	6-Me	$\mathbf{H}$	n-Pr	F	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-Pr	F	CH
t-Bu	6-Me	H	n-Pr	F	CH	t-Bu	, <b>6-C1</b>	H	n-Pr	F	CH
Me	6-Me	H	CF <sub>3</sub>	F	CH	Me	6-C1	H	CF <sub>3</sub>	F	CH
Et	6-Me	$\mathbf{H}$	CF <sub>3</sub>	F	CH	Et	6-C1	H	CF <sub>3</sub>	F	CH
i-Pr	6-Me	H	CF <sub>3</sub>	$\mathbf{F}$	CH	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	F	CH
t-Bu	6-Me	H	CF <sub>3</sub>	F	CH	t-Bu	6-C1	H	CF <sub>3</sub>	F	CH
Me	6-Me	$\mathbf{H}$	<i>i</i> -Pr	F	CH	Me	6-Cl	$\mathbf{H}$	<i>i-</i> Pr	F	CH
Et	6-Me	H	<i>i-</i> Pr	$\mathbf{F}$	CH	Et	6-C1	H	<i>i-</i> Pr	F	CH
<i>i-</i> Pr	6-Me	H	<i>i-</i> Pr	F	CH	<i>i-</i> Pr	6-Cl	H	<i>i-</i> Pr	F	CH
t-Bu	6-Me	H	<i>i-</i> Pr	F	CH	<i>t</i> -Bu	6-C1	H	<i>i-</i> Pr	F	CH
Me	6-Me	$\mathbf{H}$	$C_2F_5$	F	CH	Me	6-C1	H	$C_2F_5$	F	CH
Et	6-Me	H	$C_2F_5$	F	CH	Et	6-C1	H	$C_2F_5$	F	CH
i-Pr	6-Me	H	$C_2F_5$	F	CH	i-Pr	6-C1	H	$C_2F_5$	F	CH
t-Bu	6-Me	H	$C_2F_5$	F	CH	t-Bu	6-C1	H	$C_2F_5$	F	CH
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Ме	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	CH	i-Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t-</i> Bu	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH
<i>i-</i> Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	F	CH
<i>t-</i> Bu	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	CH	t-Bu	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH

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 $R^{4a}$  $R^{4b}$  $\mathbb{R}^3$  $\mathbb{R}^9$ <u>R</u>6  $R^{4b}$  $\mathbb{R}^9$  $\underline{\mathbf{X}}$  $\mathbb{R}^3$ R<sup>4a</sup> <u>R</u>6  $\underline{\mathbf{X}}$ Me 6-Ме F F CH Η Et CH 6-C1 Η Et Me Et 6-Me  $\mathbf{H}$ Et F CH 6-C1 Η Et F CH Et i-Pr 6-Me Η Et  $\mathbf{F}$ i-Pr 6-C1 Et F CH CH Η t-Bu 6-Me Η Et F CH t-Bu 6-C1 Η Et F CH Me 6-Me Η CHF<sub>2</sub> Cl 6-C1 C1 CH CH Me Η CHF<sub>2</sub> Et 6-Me  $\mathbf{H}$ CHF<sub>2</sub> C1 CH Et 6-C1 Н CHF<sub>2</sub> C1 CH i-Pr CH 6-Me Η CHF<sub>2</sub> C1 CH i-Pr 6-C1 Η CHF<sub>2</sub> C1 t-Bu 6-Ме H CHF<sub>2</sub> C1 CHt-Bu 6-C1 H CHF<sub>2</sub> Cl CH Me 6-Me Η n-Pr C1 CH 6-C1 C1 CH Me Η n-Pr Et 6-Me Η n-Pr Cl CH Et 6-C1 Η n-Pr Cl CH CH i-Pr 6-Me H n-Pr Cl CH i-Pr 6-C1 Η n-Pr CI t-Bu 6-Me Η n-Pr C1 CH t-Bu 6-C1 Η n-Pr C1 CH Me 6-Ме 6-C1 Cl CH Η CF<sub>3</sub> Cl CH Me Н CF<sub>3</sub> CH Et 6-Me Η CF<sub>3</sub> C1 CH Et 6-C1 Η CF<sub>3</sub> Cl CH i-Pr 6-Me Η Cl CH *i-*Pr 6-C1 CF<sub>3</sub> Cl CF<sub>3</sub> Η t-Bu CF<sub>3</sub> CH 6-Ме Η CF<sub>3</sub> Cl CH t-Bu 6-C1  $\mathbf{H}$ Cl Me 6-Me Η i-Pr Cl CH Me 6-C1 H i-Pr C1 CH Et Cl 6-C1 i-Pr Cl CH 6-Me Η i-Pr CH Et  $\mathbf{H}$ i-Pr i-Pr Cl i-Pr C1 CH 6-Me  $\mathbf{H}$ CH *i*-Pr 6-C1 Η t-Bu i-Pr C1 CH 6-Me H i-Pr Cl CH t-Bu 6-CI Η CH Me Cl 6-Me Η C<sub>2</sub>F<sub>5</sub> Cl CH Me 6-C1 Η  $C_2F_5$  $C_2F_5$ Et 6-Me  $\mathbf{H}$ Cl CH Et 6-C1 H  $C_2F_5$ Cl CH i-Pr i-Pr CH 6-Me Η  $C_2F_5$ Cl CH 6-C1  $C_2F_5$ Cl H t-Bu 6-Me H  $C_2F_5$ Cl CHt-Bu 6-C1 Η  $C_2F_5$ C1 CH Me CH 6-Me Η n-C<sub>3</sub>F<sub>7</sub> C1 CH Me 6-Cl Η n-C<sub>3</sub>F<sub>7</sub> C1 CH Et 6-Me H n-C<sub>3</sub>F<sub>7</sub> C1 CH Et 6-C1 Η n-C3F7 C1 i-Pr 6-Ме Η n-C3F7 CI CH *i-*Pr 6-C1 Н n-C<sub>3</sub>F<sub>7</sub> Cl CH t-Bu t-Bu Cl CH 6-Me Η n-C3F7 Cl CH 6-C1 H n-C3F7 CH Cl Me 6-Me Η i-C<sub>3</sub>F<sub>7</sub> Cl CH Me 6-C1 H *i*-C<sub>3</sub>F<sub>7</sub> Εt C1 CH 6-Me Η i-C3F7 Cl CHEt 6-C1  $\mathbf{H}$ i-C<sub>3</sub>F<sub>7</sub> C1 CH i-Pr 6-Me Η Cl i-Pr 6-C1 Н i-C3F7 i-C3F7 CH Cl CH t-Bu 6-Me H i-C<sub>3</sub>F<sub>7</sub> C1 CH t-Bu 6-C1  $\mathbf{H}$ *i*-C<sub>3</sub>F<sub>7</sub> Cl CH Me 6-Ме Η Et Cl CH Me 6-C1 Н Et CH Εt Et C1 6-Me Η Et C1 CHEt 6-C1 H Н Et Cl CH i-Pr 6-Me H Et C1 CH i-Pr 6-C1 Cl CH t-Bu 6-Me Η Et Cl 6-C1 H Et CH t-Bu  $\mathbf{H}$ CH 6-Me H CH 6-C1 CHF<sub>2</sub> Br Me CHF<sub>2</sub> Br Me

					10						
<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>X</u>	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R<sup>9</sup></u>	<u>R</u> 6	X
Et	6-Me	$\mathbf{H}$	$CHF_2$	Br	CH	Et	6-C1	H	$CHF_2$	Br	CH
<i>i</i> -Pr	6-Ме	$\mathbf{H}$	$CHF_2$	Br	CH	i-Pr	6-C1	H	$CHF_2$	Br	CH
t-Bu	6-Me	H	CHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	6-C1	Н	CHF <sub>2</sub>	Br	CH
Me	6-Me	$\mathbf{H}$	n-Pr	Br	CH	Ме	6-C1	H	n-Pr	Br	CH
Et	6-Me	H	<i>n</i> -Pr	Br	CH	Et	6-C1	$\mathbf{H}$	n-Pr	Br	CH
i-Pr	6-Me	H	n-Pr	Br	CH	<i>i-</i> Pr	6-C1	н	n-Pr	Br	CH
t-Bu	6-Me	H	n-Pr	Br	CH	t-Bu	6-C1	H	n-Pr	Br	CH
Me	6-Me	H	CF <sub>3</sub>	Br	CH	Me	6-C1	H	CF <sub>3</sub>	Br	CH
Et	6-Me	H	CF <sub>3</sub>	Br	CH	Et	6-C1	H	CF <sub>3</sub>	Br	CH
<i>i-</i> Pr	6-Me	H	CF <sub>3</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	Br	CH
t-Bu	6-Me	H	CF <sub>3</sub>	Br	CH	t-Bu	6-C1	H	CF <sub>3</sub>	Br	CH
Me	6-Me	H	<i>i-</i> Pr	Br	CH	Me	6-C1	H	i-Pr	Br	CH
Et	6-Me	$\mathbf{H}$	<i>i-</i> Pr	Br	CH	Et	6-C1	H	<i>i-</i> Pr	Br	CH
<i>i-</i> Pr	6-Me	H	<i>i-</i> Pr	Br	CH	i-Pr	6-C1	H	<i>i-</i> Pr	Br	CH
t-Bu	6-Me	H	<i>i</i> -Pr	Br	CH	<i>t</i> -Bu	6-C1	$\mathbf{H}$	<i>i-</i> Pr	$\mathbf{Br}$	CH
Me	6-Me	H	$C_2F_5$	Br	CH	Me	6-C1	H	$C_2F_5$	Br	CH
Et	6-Me	H	$C_2F_5$	Br	CH	Et	6-C1	H	$C_2F_5$	Br	CH
<i>i-</i> Pr	6-Me	H	$C_2F_5$	Br	CH	<i>i-</i> Pr	6-C1	H	$C_2F_5$	Br	CH
t-Bu	6-Me	H	$C_2F_5$	Br	CH	t-Bu	6-C1	H	$C_2F_5$	Br	CH
Me	6-Ме	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	СН	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
i-Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t</i> -Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
<i>i</i> -Pr	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>i-</i> Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
Me	6-Me	H	Et	Br	CH	Me	6-C1	H	Et	Br	CH
Et	6-Me	H	Et	Br	CH	Et	6-C1	H	Et	Br	CH
i-Pr	6-Me	H	Et	Br	CH	i-Pr	6-C1	H	Et	Br	CH
t-Bu	6-Me	H	Et	Br	CH	<i>t</i> -Bu	6-Cl	H	Et	Br	CH
Me	6-Me	H	$CHF_2$	$CF_3$	CH	Me	6-C1	H	CHF <sub>2</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	CHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-Cl	H	CHF <sub>2</sub>	CF <sub>3</sub>	CH
<i>i-</i> Pr	6-Me	H	CHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	CHF <sub>2</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	CHF <sub>2</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	CHF <sub>2</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	n-Pr	CF <sub>3</sub>	CH	Me	6-C1	H	n-Pr	CF <sub>3</sub>	CH
Et	6-Me	H	n-Pr	CF <sub>3</sub>	CH	Et	6-Cl	H	n-Pr	CF <sub>3</sub>	CH

<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R</u> 4b	<u>R</u> 9	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	X
i-Pr	6-Me	H	n-Pr	CF <sub>3</sub>	CH	<i>i</i> -Pr	6-C1	$\mathbf{H}$	n-Pr	$CF_3$	CH
t-Bu	6-Me	$\mathbf{H}$	n-Pr	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	n-Pr	CF <sub>3</sub>	CH
Me	6-Ме	$\mathbf{H}$	CF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	CF <sub>3</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	CF <sub>3</sub>	$CF_3$	CH
<i>i</i> -Pr	6-Ме	H	CF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	CF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	CF <sub>3</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	i-Pr	CF <sub>3</sub>	CH	Me	6-C1	H	<i>i-</i> Pr	CF <sub>3</sub>	CH
Et	6-Me	H	i-Pr	CF <sub>3</sub>	CH	Et	6-C1	H	<i>i-</i> Pr	CF <sub>3</sub>	CH
i-Pr	6-Me	H	i-Pr	$CF_3$	CH	<i>i-</i> Pr	6-C1	H	i-Pr	CF <sub>3</sub>	CH
t-Bu	6-Me	H	i-Pr	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	H	i-Pr	CF <sub>3</sub>	CH
Me	6-Me	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	CH	Me	6-C1	$\mathbf{H}$	$C_2F_5$	CF <sub>3</sub>	CH
Et	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	Et	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
i-Pr	6-Me	H	$C_2F_5$	CF <sub>3</sub>	CH	i-Pr	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
t-Bu	6-Me	H	$C_2F_5$	$CF_3$	CH	<i>t-</i> Bu	6-C1	H	$C_2F_5$	CF <sub>3</sub>	CH
Me	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	$CF_3$	CH
Et	6-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	$\mathbf{H}$	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t-</i> Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	$\mathbf{H}$	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Me	6-C1	$\mathbf{H}$	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
i-Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Me	H	Et	CF <sub>3</sub>	CH	Me	6-C1	H	Et	CF <sub>3</sub>	CH
Et	6-Me	H	Et	CF <sub>3</sub>	CH	Et	6-C1	H	Et	CF <sub>3</sub>	CH
i-Pr	6-Me	H	Et	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	H	Et	CF <sub>3</sub>	CH
t-Bu	6-Me	H	Et	CF <sub>3</sub>	CH	t-Bu	6-C1	H	Et	CF <sub>3</sub>	CH
Me	6-Me	C1	CHF <sub>2</sub>	F	CH	Me	6-C1	C1	CHF <sub>2</sub>	F	CH
Et	6-Me	Cl	$CHF_2$	F	CH	Et	6-C1	C1	CHF <sub>2</sub>	F	CH
i-Pr	6-Me	C1	$CHF_2$	F	CH	<i>i-</i> Pr	6-C1	C1	CHF <sub>2</sub>	F	CH
t-Bu	6-Me	Cl	$CHF_2$	F	CH	t-Bu	6-C1	Cl	CHF <sub>2</sub>	$\mathbf{F}$	CH
Me	6-Me	Cl	n-Pr	F	CH	Me	6-C1	Cl	n-Pr	F	CH
Et	6-Me	Cl	n-Pr	F	CH	Et	6-C1	Cl	n-Pr	F	CH
<i>i-</i> Pr	6-Me	Cl	n-Pr	F	CH	i-Pr	6-C1	Cl	n-Pr	F	CH
t-Bu	6-Me	Cl	n-Pr	F	CH	t-Bu	6-Cl	C1	n-Pr	F	CH
Me	6-Me	Cl	CF <sub>3</sub>	F	CH	Me	6-C1	Cl	CF <sub>3</sub>	F	CH
Et	6-Me	Cl	CF <sub>3</sub>	F	CH	Et	6-C1	Cl	CF <sub>3</sub>	F	CH
i-Pr	6-Ме	C1	CF <sub>3</sub>	F	CH	i-Pr	6-C1	C1	CF <sub>3</sub>	F	CH

<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	X	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	X
t-Bu	6-Ме	Cl	CF <sub>3</sub>	F	CH	t-Bu	6-C1	C1	CF <sub>3</sub>	F	CH
Me	6-Ме	C1	<i>i-</i> Pr	F	CH	Me	6-C1	C1	<i>i-</i> Pr	F	CH
Et	6-Ме	Cl	<i>i-</i> Pr	F	CH	Et	6-C1	C1	<i>i</i> -Pr	$\mathbf{F}$	CH
i-Pr	6-Me	Cl	<i>i-</i> Pr	F	CH	i-Pr	6-C1	C1	i-Pr	F	CH
t-Bu	6-Me	C1	i-Pr	F	CH	t-Bu	6-C1	Cl	<i>i-</i> Pr	F	CH
Me	6-Me	C1	$C_2F_5$	F	CH	Me	6-C1	Cl	$C_2F_5$	F	CH
Et	6-Me	Cl	$C_2F_5$	F	CH	Et	6-C1	C1	$C_2F_5$	F	CH
<i>i-</i> Pr	6-Me	C1	$C_2F_5$	F	CH	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	F	CH
t-Bu	6-Me	C1	$C_2F_5$	F	CH	<i>t</i> -Bu	6-C1	Cl	$C_2F_5$	F	CH
Me	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	Cl	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	$\mathbf{F}$	CH
<i>i-</i> Pr	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH	t-Bu	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Me	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CH
Et	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH	Et	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH
i-Pr	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>i-</i> Pr	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH
t-Bu	6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH	<i>t</i> -Bu	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	F	CH
Me	6-Me	Cl	Et	F	CH	Me	6-C1	C1	Et	F	CH
Et	6-Me	Cl	Et	F	CH	Et	6-C1	Cl	Et	F	CH
<i>i-</i> Pr	6-Me	Cl	Et	F	CH	<i>i-</i> Pr	6-C1	C1	Et	F	CH
t-Bu	6-Me	Cl	Et	F	CH	<i>t</i> -Bu	6-Cl	C1	Et	F	CH
Me	6-Me	Cl	CHF <sub>2</sub>	C1	CH	Me	6-C1	C1	CHF <sub>2</sub>	C1	CH
Et	6-Ме	Cl	CHF <sub>2</sub>	C1	CH	Et	6-C1	C1	CHF <sub>2</sub>	C1	CH
i-Pr	6-Me	C1	CHF <sub>2</sub>	Cl	CH	<i>i</i> -Pr	6-C1	C1	CHF <sub>2</sub>	C1	CH
t-Bu	6-Me	C1	CHF <sub>2</sub>	C1	CH	<i>t</i> -Bu	6-C1	C1	CHF <sub>2</sub>	C1	CH
Me	6-Me	C1	n-Pr	C1	CH	Me	6-C1	Cl	n-Pr	C1	CH
Et	6-Me	C1	n-Pr	C1	CH	Et	6-C1	C1	n-Pr	C1	CH
i-Pr	6-Me	C1	n-Pr	Cl	CH	i-Pr	6-C1	C1	n-Pr	Cl	CH
t-Bu	6-Me	Cl	n-Pr	Cl	CH	t-Bu	6-C1	C1	n-Pr	Cl	CH
Me	6-Me	Cl	CF <sub>3</sub>	Cl	CH	Me	6-C1	C1	CF <sub>3</sub>	C1	CH
Et	6-Me	Cl	CF <sub>3</sub>	C1	CH	Et	6-C1	C1	CF <sub>3</sub>	C1	CH
<i>i</i> -Pr	6-Ме	Cl	CF <sub>3</sub>	Cl	CH	i-Pr	6-C1	C1	CF <sub>3</sub>	CI	CH
t-Bu	6-Me	Cl	CF <sub>3</sub>	C1	CH	t-Bu	6-C1	C1	CF <sub>3</sub>	Cl	CH
Me	6-Me	Cl	<i>i</i> -Pr	Cl	CH	Me	6-C1	C1	<i>i-</i> Pr	Cl	CH
Et	6-Me	Cl	<i>i</i> -Pr	Cl	CH	Et	6-C1	Cl	<i>i-</i> Pr	Cl	CH
<i>i-</i> Pr	6-Me	Cl	i-Pr	C1	CH	<i>i-</i> Pr	6-C1	C1	<i>i-</i> Pr	Cl	CH
t-Bu	6-Me	Cl	i-Pr	C1	CH	<i>t-</i> Bu	6-C1	C1	<i>i</i> -Pr	C1	CH

<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>X</u>	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	<u>X</u>
Me	6-Ме	C1	$C_2F_5$	C1	CH	Ме	6-C1	C1	$C_2F_5$	<b>C</b> 1	CH
Et	6-Ме	C1	$C_2F_5$	Cl	CH	Et	6-C1	C1	$C_2F_5$	C1	CH
i-Pr	6-Me	C1	$C_2F_5$	C1	CH	<i>i-</i> Pr	6-C1	C1	$C_2F_5$	Cl	CH
t-Bu	6-Ме	C1	$C_2F_5$	CI	CH	<i>t-</i> Bu	6-C1	C1	$C_2F_5$	C1	CH
Me	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Me	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	Cl	CH
Et	6-Me	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	6-C1	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
i-Pr	6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	i-Pr	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	6-Ме	Cl	n-C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>t</i> -Bu	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	CH	Ме	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH
Et	6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	Et	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	Cl	CH
i-Pr	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	<i>i-</i> Pr	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
t-Bu	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CH	t-Bu	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	C1	CH
Me	6-Me	C1	Et	C1	CH	Ме	6-C1	C1	Et	Cl	CH
Et	6-Me	C1	Et	C1	CH	Et	6-C1	C1	Et	C1	CH
i-Pr	6-Me	Cl	Et	C1	CH	<i>i</i> -Pr	6-C1	Cl	Et	C1	CH
t-Bu	6-Me	C1	Et	CI	CH	<i>t</i> -Bu	6-C1	C1	Et	Cl	CH
Me	6-Me	C1	CHF <sub>2</sub>	Br	CH	Me	6-C1	C1	CHF <sub>2</sub>	Br	CH
Et	6-Me	C1	$CHF_2$	Br	CH	Et	6-Cl	C1	CHF <sub>2</sub>	Br	CH
<i>i-</i> Pr	6-Me	C1	CHF <sub>2</sub>	Br	CH	i-Pr	6-C1	Cl	CHF <sub>2</sub>	Br	CH
t-Bu	6-Ме	C1	CHF <sub>2</sub>	Br	CH	<i>t</i> -Bu	6-C1	Cl	CHF <sub>2</sub>	Br	CH
Me	6-Me	C1	<i>n</i> -Pr	Br	CH	Me	6-C1	C1	<i>n</i> -Pr	Br	CH
Et	6-Me	C1	n-Pr	Br	CH	Et	6-C1	C1	n-Pr	Br	CH
i-Pr	6-Ме	C1	n-Pr	Br	CH	<i>i-</i> Pr	6-C1	Cl	n-Pr	Br	CH
t-Bu	6-Me	C1	<i>n</i> -Pr	Br	CH	<i>t</i> -Bu	6-C1	C1	n-Pr	Br	CH
Me	6-Me	C1	CF <sub>3</sub>	Br	CH	Ме	6-C1	C1	CF <sub>3</sub>	Br	CH
Et	6-Me	C1	CF <sub>3</sub>	Br	CH	Et	6-C1	Cl	CF <sub>3</sub>	Br	CH
<i>i-</i> Pr	6-Me	Cl	CF <sub>3</sub>	Br	CH	i-Pr	6-C1	C1	CF <sub>3</sub>	$\mathbf{Br}$	CH
t-Bu	6-Me	C1	CF <sub>3</sub>	Br	CH	t-Bu	6-C1	C1	CF <sub>3</sub>	Br.	CH
Me	6-Ме	C1	<i>i-</i> Pr	Br	CH	Me	6-C1	C1	i-Pr	Br	CH
Et	6-Me	Cl	i-Pr	Br	CH	Et	6-Cl	C1	<i>i-</i> Pr	Br	CH
<i>i-</i> Pr	6-Me	Cl	<i>i-</i> Pr	Br	CH	<i>i</i> -Pr	6-C1	C1	i-Pr	Br	CH
t-Bu	6-Me	C1	<i>i-</i> Pr	Br	CH	t-Bu	6-C1	C1	<i>i</i> -Pr	Br	CH
Me	6-Me	Cl	$C_2F_5$	Br	CH	Me	6-C1	C1	$C_2F_5$	Br	CH
Et	6-Me	C1	$C_2F_5$	Br	CH	Et	6-C1	C1	$C_2F_5$	Br	CH
i-Pr	6-Me	C1	$C_2F_5$	Br	CH	<i>i-</i> Pr	6-C1	Cl	$C_2F_5$	Br	CH
t-Bu	6-Me	C1	$C_2F_5$	Br	CH	t-Bu	6-C1	C1	$C_2F_5$	Br	CH
Me	6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	$\mathbf{Br}$	CH	Me	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH

R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	X	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	X
6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
6-Me	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	CH	i-Pr	6-C1	Cl	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
6-Me	C1	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	<i>t</i> -Bu	6-C1	C1	n-C <sub>3</sub> F <sub>7</sub>	Br	CH
6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH	Me	6-C1	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
6-Me	C1	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	Et	6-C1	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	CH
6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	i-Pr	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
6-Me	Cl	i-C <sub>3</sub> F <sub>7</sub>	Br	CH	t-Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Br	CH
6-Me	C1	Et	Br	CH	Me	6-C1	Cl	Et	Br	CH
6-Me	Cl	Et	Br	CH	Et	6-C1	Cl	Et	Br	CH
6-Me	C1	Et	Br	CH	i-Pr	6-C1	C1	Et	Br	CH
6-Me	Cl	Et	Br	CH	t-Bu	6-C1	Cl	Et	Br	CH
6-Me	C1	CHF <sub>2</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	CHF <sub>2</sub>	CF <sub>3</sub>	CH
6-Me	Cl	CHF <sub>2</sub>	CF <sub>3</sub>	CH	Et	6-C1	Cl	CHF <sub>2</sub>	CF <sub>3</sub>	CH
6-Me	C1	CHF <sub>2</sub>	CF <sub>3</sub>	CH	i-Pr	6-C1	C1	CHF <sub>2</sub>	CF <sub>3</sub>	CH
6-Me	Cl	CHF <sub>2</sub>	CF <sub>3</sub>	CH	t-Bu	6-C1	C1	CHF <sub>2</sub>	CF <sub>3</sub>	CH
6-Me	C1	n-Pr	CF <sub>3</sub>	CH	Me	6-C1	C1	n-Pr	CF <sub>3</sub>	CH
6-Me	C1	n-Pr	CF <sub>3</sub>	CH	Et	6-C1	C1	n-Pr	CF <sub>3</sub>	CH
6-Me	Cl	n-Pr	CF <sub>3</sub>	CH	i-Pr	6-C1	Cl ,	n-Pr	CF <sub>3</sub>	CH
6-Me	C1	n-Pr	CF <sub>3</sub>	CH	<i>t-</i> Bu	6-C1	C1	n-Pr	CF <sub>3</sub>	CH
6-Me	Cl	CF <sub>3</sub>	CF <sub>3</sub>	CH	Me	6-C1	C1	CF <sub>3</sub>	CF <sub>3</sub>	CH
6-Me	Cl	CF <sub>3</sub>	CF <sub>3</sub>	CH	Et	6-C1	C1	CF <sub>3</sub>	CF <sub>3</sub>	CH
6-Me	C1	CF <sub>3</sub>	CF <sub>3</sub>	CH	<i>i</i> -Pr	6-C1	C1	CF <sub>3</sub>	CF <sub>3</sub>	CH
6-Me	C1	CF <sub>3</sub>	CF <sub>3</sub>	CH	<i>t-</i> Bu	6-C1	Cl	CF <sub>3</sub>	CF <sub>3</sub>	CH
6-Me	Cl	<i>i-</i> Pr	CF <sub>3</sub>	CH	Me	6-C1	C1	<i>i-</i> Pr	CF <sub>3</sub>	CH
6-Me	Cl	<i>i</i> -Pr	CF <sub>3</sub>	CH	Et	6-C1	Cl	<i>i-</i> Pr	CF <sub>3</sub>	CH
6-Me	C1	<i>i-</i> Pr	CF <sub>3</sub>	CH	<i>i</i> -Pr					CH
			-						~	CH
		$C_2F_5$	CF <sub>3</sub>		Me				_	CH
		$C_2F_5$	_		Et				-	CH
			_		l				•	CH
			•	•	ł				-	CH
			-						_	CH
			~						-	CH
			•						Ū	CH
										CH
			-		Į.			- '	·	CH
6-Me	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	Et	6-C1	CI	i-C3F7	CF <sub>3</sub>	CH
	6-Me 6-Me 6-Me 6-Me 6-Me 6-Me 6-Me 6-Me	6-Me CI	6-Me Cl	6-Me Cl	6-Me CI	6-Me Cl	6-Me Cl	6-Me Cl	6-Me         CI         n-C <sub>3</sub> F <sub>7</sub> Br         CH         Et         6-CI         CI         n-C <sub>3</sub> F <sub>7</sub> 6-Me         CI         n-C <sub>3</sub> F <sub>7</sub> Br         CH         i-Fr         6-CI         CI         n-C <sub>3</sub> F <sub>7</sub> 6-Me         CI         i-C <sub>3</sub> F <sub>7</sub> Br         CH         Me         6-CI         CI         i-C <sub>3</sub> F <sub>7</sub> 6-Me         CI         i-C <sub>3</sub> F <sub>7</sub> Br         CH         Et         6-CI         CI         i-C <sub>3</sub> F <sub>7</sub> 6-Me         CI         i-C <sub>3</sub> F <sub>7</sub> Br         CH         i-Bu         6-CI         CI         i-C <sub>3</sub> F <sub>7</sub> 6-Me         CI         Et         Br         CH         i-Bu         6-CI         CI         i-C <sub>3</sub> F <sub>7</sub> 6-Me         CI         Et         Br         CH         i-Bu         6-CI         CI         Et           6-Me         CI         Et         Br         CH         i-Bu         6-CI         CI         Et           6-Me         CI         CHF2         CF <sub>3</sub> CH         i-Bu         6-CI         CI         CHF2           6-Me         CI         n-Pr         CF <sub>3</sub> CH	6-Me Cl

						•					
$\mathbb{R}^3$	<u>R<sup>4a</sup></u>	$\underline{R^{4b}}$	<u>R<sup>9</sup></u>	<u>R</u> 6	<u>X</u>	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 9	<u>R</u> 6	$\underline{\mathbf{x}}$
i-Pr	6-Ме	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>i-</i> Pr	6-C1	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
t-Bu	6-Me	C1	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH	<i>t</i> -Bu	6-C1	Cl	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	CF <sub>3</sub>	CH
Me	6-Ме	C1	Et	CF <sub>3</sub>	CH	Me	6-C1	C1	Et	CF <sub>3</sub>	CH
Et	6-Me	C1	Et	$CF_3$	CH	Et	6-C1	C1	Et	CF <sub>3</sub>	CH
i-Pr	6-Me	Cl	Et	$CF_3$	CH	i-Pr	6-C1	Cl	Et	CF <sub>3</sub>	CH
t-Bu	6-Ме	C1	Et	$CF_3$	CH	t-Bu	6-C1	C1	Et	CF <sub>3</sub>	CH
Me	6-Me	H	CHF <sub>2</sub>	F	CF	Me	6-C1	H	CHF <sub>2</sub>	F	CF
Et	6-Me	H	CHF <sub>2</sub>	F	CF	Et	6-C1	H	CHF <sub>2</sub>	F	CF
<i>i-</i> Pr	6-Me	H	CHF <sub>2</sub>	F	CF	i-Pr	6-C1	H	CHF <sub>2</sub>	F	CF
t-Bu	6-Me	H	CHF <sub>2</sub>	F	CF	t-Bu	6-C1	H	CHF <sub>2</sub>	F	CF
Me	6-Me	$\mathbf{H}$	n-Pr	F	CF	Me	6-C1	H	n-Pr	F	CF
Et	6-Me	$\mathbf{H}$	n-Pr	F	CF	Et	6-C1	$\mathbf{H}$	n-Pr	F	CF
i-Pr	6-Me	H	n-Pr	F	CF	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-Pr	F	CF
t-Bu	6-Me	H	n-Pr	F	CF	t-Bu	6-C1	$\mathbf{H}$	n-Pr	F	CF
Me	6-Me	H	CF <sub>3</sub>	F	CF	Me	6-C1	H	CF <sub>3</sub>	F	CF
Et	6-Me	H	CF <sub>3</sub>	F	CF	Et	6-C1	H	CF <sub>3</sub>	F	CF
i-Pr	6-Me	H	CF <sub>3</sub>	F	CF	<i>i-</i> Pr	6-C1	H	CF <sub>3</sub>	F	CF
t-Bu	6-Ме	H	CF <sub>3</sub>	F	CF	t-Bu	6-C1	H	CF <sub>3</sub>	F	CF
Me	6-Ме	H	<i>i-</i> Pr	F	CF	Me	6-C1	H	<i>i-</i> Pr	F	CF
Et	6-Me	$\mathbf{H}$	<i>i-</i> Pr	F	CF	Et	6-C1	H	<i>i-</i> Pr	F	CF
i-Pr	6-Me	H	<i>i-</i> Pr	F	CF	<i>i-</i> Pr	6-C1	H	<i>i-</i> Pr	F	CF
t-Bu	6-Me	H	i-Pr	F	CF	t-Bu	6-C1	H	<i>i-</i> Pr	F	CF
Me	6-Me	H	$C_2F_5$	F	CF	Me	6-C1	H	$C_2F_5$	F	CF
Et	6-Me	H	$C_2F_5$	F	CF	Et	6-C1	H	$C_2F_5$	F	CF
i-Pr	6-Me	H	$C_2F_5$	F	CF	i-Pr	6-C1	H	$C_2F_5$	F	CF
t-Bu	6-Me	$\mathbf{H}_{\cdot}$	$C_2F_5$	F	CF	t-Bu	6-C1	H	$C_2F_5$	F	CF
Me	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	F	CF	Me	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Et	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
<i>i-</i> Pr	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	<i>i-</i> Pr	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
<i>t-</i> Bu	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	t-Bu	6-C1	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Me	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Me	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Et	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	Et	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
i-Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	i-Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
<i>t-</i> Bu	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF	<i>t</i> -Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	F	CF
Me	6-Me	H	Et	F	CF	Me	6-C1	H	Et	F	CF
Et	6-Me	H	Et	F	CF	Et	6-Cl	H	Et	F	CF
<i>i-</i> Pr	6-Me	H	Et	F	CF	<i>i-</i> Pr	6-C1	H	Et	F	CF

$\underline{\mathbb{R}^3}$	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R<sup>9</sup></u>	<u>R</u> 6	X	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R<sup>9</sup></u>	<u>R</u> 6	X
t-Bu	6-Ме	H	Et	F	CF	<i>t</i> -Bu	6-C1	H	Et	F	CF
Me	6-Me	H	CHF <sub>2</sub>	C1	CC1	Me	6-C1	H	$CHF_2$	C1	CC1
Et	6-Ме	H	CHF <sub>2</sub>	C1	CCl	Et	6-C1	Ħ	CHF <sub>2</sub>	Cl	CC1
<i>i-</i> Pr	6-Me	H	CHF <sub>2</sub>	C1	CCl	i-Pr	6-Cl	H	CHF <sub>2</sub>	C1	CCl
t-Bu	6-Ме	$\mathbf{H}$	CHF <sub>2</sub>	C1	CC1	<i>t</i> -Bu	6-C1	H	CHF <sub>2</sub>	C1	CCI
Me	6-Me	$\mathbf{H}$	n-Pr	C1	CCl	Ме	6-C1	$\mathbf{H}$	n-Pr	C1	CC1
Et	6-Me	$\mathbf{H}$	n-Pr	C1	CC1	Et	6-C1	$\mathbf{H}$	n-Pr	C1	CCl
i-Pr	6-Me	$\mathbf{H}$	n-Pr	C1	CCI	<i>i-</i> Pr	6-C1	$\mathbf{H}$	n-Pr	Cl	CC1
t-Bu	6-Me	$\mathbf{H}$	n-Pr	Cl	CCI	<i>t</i> -Bu	6-C1	$\mathbf{H}$	n-Pr	C1	CCI
Me	6-Me	H	CF <sub>3</sub>	C1	CCI	Me	6-C1	H	CF <sub>3</sub>	Cl	CCl
Et	6-Me	$\mathbf{H}$	CF <sub>3</sub>	C1	CCl	Et	6-C1	$\mathbf{H}$	CF <sub>3</sub>	Cl	CC1
i-Pr	6-Me	$\mathbf{H}$	CF <sub>3</sub>	Cl	CCl	<i>i-</i> Pr	6-C1	$\mathbf{H}$	CF <sub>3</sub>	C1	CC1
t-Bu	6-Me	$\mathbf{H}$	CF <sub>3</sub>	C1	CC1	<i>t</i> -Bu	6-C1	H	CF <sub>3</sub>	C1	CCl
Me	6-Me	H	<i>i-</i> Pr	C1	CCl	Me	6-C1	H	i-Pr	C1	CCl
Et	6-Me	H	i-Pr	C1	CCI	Et	6-C1	$\mathbf{H}$	<i>i-</i> Pr	Cl	CCl
i-Pr	6-Me	H	i-Pr	C1	CCl	<i>i</i> -Pr	6-C1	$\mathbf{H}$	<i>i-</i> Pr	C1	CCl
t-Bu	6-Me	$\mathbf{H}$	i-Pr	C1	CC1	<i>t</i> -Bu	6-C1	H	i-Pr	C1	CCl
Me	6-Me	H	$C_2F_5$	Cl	CCl	Me	6-C1	$\mathbf{H}$	$C_2F_5$	Cl	CCl
Et	6-Me	H	$C_2F_5$	C1	CCl	Et	6-C1	H	$C_2F_5$	C1	CC1
<i>i-</i> Pr	6-Me	H	$C_2F_5$	C1	CC1	<i>i-</i> Pr	6-C1	H	$C_2F_5$	C1	CCI
t-Bu	6-Me	H	$C_2F_5$	C1	CC1	<i>t</i> -Bu	6-Cl	$\mathbf{H}$	$C_2F_5$	C1	CCl
Me	6-Me	H	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	C1	CC1	Me	6-C1	$\mathbf{H}$	<i>n</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CCl
Et	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CC1	Et	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CCl
i-Pr	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CC1	<i>i-</i> Pr	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CC1
t-Bu	6-Me	H	n-C <sub>3</sub> F <sub>7</sub>	C1	CC1	t-Bu	6-C1	H	n-C <sub>3</sub> F <sub>7</sub>	Cl	CC1
Me	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	Cl	CCl	Me	6-Cl	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CCl
Et	6-Me	H	i-C <sub>3</sub> F <sub>7</sub>	C1	CCl	Et	6-C1	H	i-C <sub>3</sub> F <sub>7</sub>	Cl	CCl
i-Pr	6-Me	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CCl	i-Pr	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CC1
t-Bu	6-Ме	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CCI	t-Bu	6-C1	H	<i>i</i> -C <sub>3</sub> F <sub>7</sub>	C1	CCI
Me	6-Me	H	Et	C1	CC1	Ме	6-C1	H	Et	Cl	CC1
Et	6-Me	H	Et	C1	CC1	Et	6-C1	H	Et	Cl	CC1
i-Pr	6-Ме	H	Et	C1	CC1	i-Pr	6-C1	H	Et	C1	CCI
t-Bu	6-Me	$\mathbf{H}$	Et	C1	CC1	<i>t</i> -Bu	6-C1	H	Et	C1	CCI

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Table 18

$$R^{4b}$$
 $R^{4a}$ 
 $NH$ 
 $R^{3}$ 

	$R^9$ is	CHF <sub>2</sub>			R <sup>9</sup> is C	H <sub>2</sub> CF <sub>3</sub>		R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
<u>R</u> 3	<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>		<u>R</u> 6
Me	CH <sub>3</sub>	H	C1	Me	CH <sub>3</sub>	H	Cl	Me	CH <sub>3</sub>	$\mathbf{H}$	Cl
Et	CH <sub>3</sub>	H	C1	Et	$CH_3$	H	C1	Et	CH <sub>3</sub>	H	C1
i-Pr	CH <sub>3</sub>	$\mathbf{H}$	C1	<i>i-</i> Pr	$CH_3$	H	Cl	i-Pr	$CH_3$	$\mathbf{H}$	C1
t-Bu	CH <sub>3</sub>	H	C1	t-Bu	CH <sub>3</sub>	H	Cl	t-Bu	$CH_3$	$\mathbf{H}$	C1
Me	CH <sub>3</sub>	H	Br	Me	CH <sub>3</sub>	H	Br	Me	$CH_3$	H	Br
Et	CH <sub>3</sub>	H	Br	Et	CH <sub>3</sub>	H	Br	Et	$CH_3$	$\mathbf{H}$	Br
i-Pr	CH <sub>3</sub>	H	Br	<i>i-</i> Pr	CH <sub>3</sub>	H	Br	i-Pr	$CH_3$	$\mathbf{H}$	Br
t-Bu	CH <sub>3</sub>	H	Br	t-Bu	CH <sub>3</sub>	H	Br	t-Bu	CH <sub>3</sub>	H	Br
Me	CH <sub>3</sub>	F	C1	Me	CH <sub>3</sub>	F	C1	Me	$CH_3$	F	C1
Et	CH <sub>3</sub>	F	C1	Et	CH <sub>3</sub>	F	Cl	Et	CH <sub>3</sub>	F	C1
i-Pr	CH <sub>3</sub>	F	C1	<i>i-</i> Pr	CH <sub>3</sub>	F	Cl	i-Pr	$CH_3$	F	Cl
t-Bu	CH <sub>3</sub>	$\mathbf{F}$	Cl	t-Bu	CH <sub>3</sub>	F	Cl	t-Bu	CH <sub>3</sub>	F	C1
Me	CH <sub>3</sub>	$\mathbf{F}$	Br	Me	CH <sub>3</sub>	· <b>F</b>	Br	Ме	$CH_3$	F	Br
Et	CH <sub>3</sub>	F	Br	Et	$CH_3$	F	Br	Et	$CH_3$	F	Br
i-Pr	CH <sub>3</sub>	F	Br	<i>i-</i> Pr	$CH_3$	F	Br	<i>i-</i> Pr	$CH_3$	F	Br
t-Bu	CH <sub>3</sub>	F	Br	t-Bu	$CH_3$	F	Br	t-Bu	$CH_3$	F	Br
Me	CH <sub>3</sub>	C1	C1	Me	$CH_3$	Cl	C1	Me	$CH_3$	C1	C1
Et	CH <sub>3</sub>	C1	C1	Et	CH <sub>3</sub>	Cl	C1	Et	$CH_3$	C1	Cl
i-Pr	CH <sub>3</sub>	C1	C1	<i>i-</i> Pr	$CH_3$	C1	C1	<i>i-</i> Pr	$CH_3$	Cl	C1
t-Bu	CH <sub>3</sub>	C1	C1	<i>t-</i> Bu	CH <sub>3</sub>	Cl	C1	t-Bu	CH <sub>3</sub>	C1	C1
Me	CH <sub>3</sub>	C1	Br	Me	CH <sub>3</sub>	Cl	Br	Me	CH <sub>3</sub>	C1	Br
Et	CH <sub>3</sub>	C1	Br	Et	CH <sub>3</sub>	Cl	Br	Et	CH <sub>3</sub>	C1	Br
<i>i-</i> Pr	CH <sub>3</sub>	C1	Br	i-Pr	CH <sub>3</sub>	Cl	Br	<i>i-</i> Pr	CH <sub>3</sub>	C1	Br
t-Bu	CH <sub>3</sub>	CI	Br	t-Bu	CH <sub>3</sub>	Cl	Br	t-Bu	CH <sub>3</sub>	C1	Br
Me	CH <sub>3</sub>	Br	C1	Me	CH <sub>3</sub>	Br	C1	Me	CH <sub>3</sub>	Br	C1
Et	CH <sub>3</sub>	Br	C1	Et	CH <sub>3</sub>	Br	C1	Et	CH <sub>3</sub>	Br	Cl

**WO** 02/48137

	R <sup>9</sup> is	CHF <sub>2</sub>			R <sup>9</sup> is C	H <sub>2</sub> CF <sub>3</sub>			R <sup>9</sup> is Cl	E2CHE2	
<u>R</u> 3	<u>R<sup>4</sup>a</u>	$\mathbb{R}^{4b}$	<u>R</u> 6	<u>R</u> 3	$\mathbb{R}^{4a}$	$\frac{2}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	$\mathbb{R}^{4a}$	$\frac{2}{R^{4b}}$	<u>R</u> 6
<i>i-</i> Pr	CH <sub>3</sub>	Br	Cl	<i>i</i> -Pr	CH <sub>3</sub>	Br	Cl	<i>i-</i> Pr	CH <sub>3</sub>	Br	C1
t-Bu	CH <sub>3</sub>	Br	C1	<i>t-</i> Bu	CH <sub>3</sub>	Br	C1	<i>t-</i> Bu	CH <sub>3</sub>	Br	C1
Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	Br	Br
Et	CH <sub>3</sub>	Br	Br	Et	CH <sub>3</sub>	Br	Br	Et	CH <sub>3</sub>	Br	Br
i-Pr	CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	Br	Br
t-Bu	$CH_3$	Br	Br	<i>t-</i> Bu	CH <sub>3</sub>	Br	Br	<i>t</i> -Bu	$CH_3$	Br	Br
Me	$CH_3$	I	Cl	Me	$CH_3$	I	C1	Me	$CH_3$	I	C1
Et	CH <sub>3</sub>	I	C1	Et	$CH_3$	I	C1	Et	$CH_3$	Ι	C1
i-Pr	CH <sub>3</sub>	I	C1	<i>i-</i> Pr	$CH_3$	I	C1	<i>i-</i> Pr	CH <sub>3</sub>	I	C1
t-Bu	CH <sub>3</sub>	I	C1	t-Bu	CH <sub>3</sub>	I	C1	<i>t</i> -Bu	CH <sub>3</sub>	I	C1
Me	$CH_3$	Ι	Br	Me	CH <sub>3</sub>	I	Br	Me	$CH_3$	I	Br
Et	$CH_3$	I	Br	Et	CH <sub>3</sub>	I	Br	Et	CH <sub>3</sub>	I	Br
i-Pr	CH <sub>3</sub>	I	Br	<i>i-</i> Pr	$CH_3$	I	Br	<i>i-</i> Pr	CH <sub>3</sub>	1	Br
t-Bu	$CH_3$	I	Br	t-Bu	$CH_3$	I	Br	<i>t-</i> Bu	CH <sub>3</sub>	I	Br
Me	CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	$CH_3$	CF <sub>3</sub>	C1	Me	CH <sub>3</sub>	CF <sub>3</sub>	Cl
Et	CH <sub>3</sub>	CF <sub>3</sub>	C1	Et	CH <sub>3</sub>	CF <sub>3</sub>	Cl	Et	CH <sub>3</sub>	CF <sub>3</sub>	C1
i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	Cl	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	C1	<i>i-</i> Pr	$CH_3$	CF <sub>3</sub>	Cl
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Cl	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	C1	<i>t</i> -Bu	CH <sub>3</sub>	CF <sub>3</sub>	C1
Me	CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	$CH_3$	CF <sub>3</sub>	Br	Me	CH <sub>3</sub>	CF <sub>3</sub>	Br
Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br
i-Pr	$CH_3$	CF <sub>3</sub>	Br	<i>i-</i> Pr	CH <sub>3</sub> ·	CF <sub>3</sub>	Br	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>t</i> -Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br
n-Pr	CH <sub>3</sub>	C1	Cl	Me	C1	F	Br	Me	Cl	H	Br
<i>n-</i> Bu	CH <sub>3</sub>	Cl	C1	Et	Cl	F	Br	Et	Cl	H	Br
s-Bu	CH <sub>3</sub>	C1	C1	<i>i-</i> Pr	C1	F	Br	<i>i-</i> Pr	C1	H	Br
<i>i-</i> Bu	$CH_3$	C1	C1	t-Bu	Cl	F	Br	<i>t</i> -Bu	C1	H	Br
Me	C1	F	C1	Me	C1	F	C1	Me	Cl	H	Cl
Et	Cl	F	C1	Et	CI	F	C1	Et	Cl	H	Cl
i-Pr	Cl	F	Cl	<i>i-</i> Pr	CI	F	C1	<i>i-</i> Pr	Cl	H	Cl
t-Bu	Cl	F	C1	t-Bu	Cl	F	C1	<i>i-</i> Pr	Cl	H	C1
Me	Cl	F	Br	Me	Cl	C1	Br	Me	Cl	I	Br
Et	CI	F	Br	Et	Cl	C1	Br	Et	Cl	I	Br
i-Pr	CI	F	Br	i-Pr	Cl	C1	Br	<i>i-</i> Pr	C1	Ι	Br
t-Bu	Cl	F	Br	t-Bu	.C1	C1	Br	<i>t</i> -Bu	Cl	I	Br
Me	Cl	C1	C1	Me	C1	C1	C1	Me	C1	I	Cl
Et	Cl	Cl	C1	Et	C1	C1	C1	Et	C1	I	C1

	R <sup>9</sup> is	CHF <sub>2</sub>			R <sup>9</sup> is C	H <sub>2</sub> CF <sub>3</sub>	R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>				
$\underline{R^3}$	$R^{4a}$	$\overline{\mathrm{R}^{4\mathrm{b}}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>		<u>R</u> 6
i-Pr	C1	Cl	C1	i-Pr	Cl	Cl	C1	<i>i-</i> Pr	Cl	I	C1
t-Bu	C1	Cl	C1	t-Bu	Cl	C1	C1	<i>t-</i> Bu	Cl	I	C1
Me	Cl	H	Br	Me	C1	$\mathbf{H}$	Br	Me	Cl	F	Br
Et	Cl	H	Br	Et	Cl	$\mathbf{H}$	Br	Et	Cl	F	Br
i-Pr	C1	H	Br	<i>i-</i> Pr	C1	H	Br	<i>i-</i> Pr	Cl	F	Br
t-Bu	C1	$\mathbf{H}$	Br	t-Bu	Cl	H	Br	t-Bu	C1	F	Br
Me	C1	H	C1	Me	C1	H	C1	Me	Cl	F	C1
Et	C1	H	C1	Et	Cl	H	Cl	Et	Cl	F	C1
i-Pr	C1	H	C1	i-Pr	C1	$\mathbf{H}$	C1	<i>i-</i> Pr	C1	F	Cl
t-Bu	C1	Н	C1	t-Bu	Cl	H	C1	t-Bu	C1	F	C1
Me	C1	Br	Br	Me	Cl	Br	Br	Me	Cl	CF <sub>3</sub>	Br
Et	Cl	$\mathbf{Br}$	Br	Et	Cl	Br	Br	Et	C1	CF <sub>3</sub>	Br
i-Pr	Cl	Br	Br	<i>i-</i> Pr	Cl	Br	Br	<i>i-</i> Pr	Cl	CF <sub>3</sub>	Br
t-Bu	C1	Br	Br	t-Bu	Cl	Br	Br	t-Bu	Cl	CF <sub>3</sub>	Br
Me	C1	Br	C1	Me	C1	1	C1	Me	Cl	CF <sub>3</sub>	C1
Et	C1	Br	Cl	Et	Cl	Ι	C1	Et	C1	CF <sub>3</sub>	C1
<i>i</i> -Pr	C1	Br	Cl	<i>i-</i> Pr	Cl	Ι	C1	<i>i-</i> Pr	Cl	CF <sub>3</sub>	C1
t-Bu	Cl	Br	C1	t-Bu	Cl	I	Cl	<i>t</i> -Bu	C1	CF <sub>3</sub>	Cl
Me	C1	1	Br	Me	Cl	I	Br	Me	Br	F	Cl
Et	C1	1	Br	Et	Cl	Ι	Br	– Et	Br	F	Cl
i-Pr	C1	1	Br	i-Pr	C1	I	Br	i-Pr	Br	F	Cl
t-Bu	C1	I	Br	t-Bu	Cl	Ι	Br	<i>t</i> -Bu	Br	F	C1
Me	Cl	1	C1	Me	Cl	CF <sub>3</sub>	Cl	Me	Br	F	Br
Et	C1	Ι	C1	Et	,C1	CF <sub>3</sub>	Cl	Et	Br	F	Br
i-Pr	C1	I	C1	<i>i-</i> Pr	Cl	CF <sub>3</sub>	C1	<i>i-</i> Pr	Br	F	Br
t-Bu	C1	I	C1	<i>t</i> -Bu	C1	CF <sub>3</sub>	C1	t-Bu	Br	F	Br
Me	C1	CF <sub>3</sub>	Br	Me	C1	CF <sub>3</sub>	Br	Me	Br	C1	C1
Et	C1	CF <sub>3</sub>	Br	Et	Cl	CF <sub>3</sub>	Br	Et	Br	C1	C1
i-Pr	Cl	CF <sub>3</sub>	Br	<i>i-</i> Pr	C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	Br	C1	C1
t-Bu	C1	CF <sub>3</sub>	Br	t-Bu	C1	CF <sub>3</sub>	Br	<i>t</i> -Bu	Br	C1	C1
Me	C1	CF <sub>3</sub>	C1	n-Pr	Cl	C1	Cl	Ме	Br	C1	Br
Et	Cl	CF <sub>3</sub>	C1	n-Bu	Cl	C1	C1	Et	Br	Cl	Br
i-Pr	C1	CF <sub>3</sub>	C1	s-Bu	Cl	Cl	C1	i-Pr	Br	C1	Br
t-Bu	C1	CF <sub>3</sub>	C1	<i>i-</i> Bu	Cl	Cl	Cl	<i>t</i> -Bu	Br	Cl	Br
Me	Br	F	Cl	Me	Br	F	C1	Ме	Br	Br	Cl
Et	Br	F	C1	Et	Br	F	Cl	Et	Br	$\mathbf{Br}$	C1

	R <sup>9</sup> is	CHF <sub>2</sub>			R <sup>9</sup> is C	H <sub>2</sub> CF <sub>3</sub>			R <sup>9</sup> is C	E2CHF2	
$\mathbb{R}^3$	<u>R<sup>4</sup>a</u>	$\frac{=}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{2}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	$\frac{2}{R^{4b}}$	<u>R</u> 6
<i>i-</i> Pr	Br	F	Cl	<i>i-</i> Pr	Br	F	C1	<i>i-</i> Pr	Br	Br	C1
<i>t</i> -Bu	Br	F	C1	<i>t</i> -Bu	Br	F	C1	t-Bu	Br	Br	C1
Me	Br	F	Br	Me	Br	F	Br	Me	Br	Br	Br
Et	Br	F	Br	Et	Br	F	Br	Et	Br	Br	Br
i-Pr	Br	F	Br	<i>i-</i> Pr	Br	F	Br	i-Pr	Br	Br	Br
t-Bu	Br	F	Br	t-Bu	Br	F	Br	<i>t</i> -Bu	Br	Br	Br
Me	Br	C1	Cl	Me	Br	C1	C1	Me	Br	I	C1
Et	Br	C1	Cl	Et	Br	C1	C1	Et	Br	I	Cl
i-Pr	Br	Cl ·	C1	i-Pr	Br	C1	C1	<i>i-</i> Pr	Br	I	Cl
t-Bu	Br	C1	C1	t-Bu	Br	CI	C1	t-Bu	Br	I	Cl
Me	Br	Cl	Br	Me	Br	Cl	Br	Me	Br	I	Br
Et	Br	Cl	Br	Et	Br	Cl	Br	Et	Br	I	Br
i-Pr	Br	Cl	Br	i-Pr	Br	C1	Br	i-Pr	Br	I	Br
t-Bu	Br	C1	Br	t-Bu	Br	C1	Br	t-Bu	Br	Ι	Br
Me	Br	Br	C1	Me	Br	Br	C1	Me	Br	CF <sub>3</sub>	Cl
Et	Br	Br	C1	Et	Br	Br	C1	Et	Br	CF <sub>3</sub>	C1
i-Pr	Br	Br	C1	i-Pr	Br	Br	C1	<i>i-</i> Pr	Br	CF <sub>3</sub>	C1
t-Bu	$\mathbf{Br}$	Br	C1	t-Bu	Br	Br	C1	t-Bu	Br	CF <sub>3</sub>	Cl
Me	Br	Br	Br	Me	Br	Br	Br	Me	Br	CF <sub>3</sub>	Br
Et	Br	Br	Br	Et	Br	Br	Br	Et	Br	CF <sub>3</sub>	Br
<i>i-</i> Pr	Br	Br	Br	<i>i-</i> Pr	Br	Br	Br	<i>i-</i> Pr	Br	CF <sub>3</sub>	Br
t-Bu	Br	Br	Br	t-Bu	Br	Br	Br	t-Bu	Br	CF <sub>3</sub>	Br
Me	Br	Ι	Cl	Me	Br	Ι	C1	Me	C1	C1	Br
Et	Br	Ι	C1	Et	Br	Ι	C1	Et	C1	C1	Br
<i>i</i> -Pr	Br	I	C1	<i>i-</i> Pr	Br	I	Cl	<i>i-</i> Pr	C1	Cl	Br
t-Bu	Br	Ι	C1	t-Bu	Br	I	C1	t-Bu	C1	Cl	Br
Me	Br	I	Br	Me	Br	I	Br	Me	C1	Cl	C1
Et	Br	Ι	Br	Et	Br	Ι	Br	Et	C1	Cl	C1
<i>i-</i> Pr	Br	Ι	Br	<i>i-</i> Pr	Br	I	Br	i-Pr	C1	Cl	Cl
t-Bu	Br	I	Br	t-Bu	Br	I	Br	t-Bu	C1	Cl	C1

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Table 19

	$R^9$ is	CHF <sub>2</sub>		$\frac{R^9 \text{ is } CH_2CF_3}{4h}$					$R^9$ is $CF_2CHF_2$			
$\mathbb{R}^3$	$R^{4a}$	$\overline{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	R4b	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R4b</u>	<u>R</u> 6	
Me	$CH_3$	H	Cl	Ме	CH <sub>3</sub>	H	C1	Me	CH <sub>3</sub>	H	Cl	
Et	$CH_3$	H	Cl	Et	CH <sub>3</sub>	H	C1	Et	CH <sub>3</sub>	$\mathbf{H}$	C1	
i-Pr	CH <sub>3</sub>	H	Cl	<i>i-</i> Pr	CH <sub>3</sub>	H	C1	<i>i-</i> Pr	$CH_3$	H	Cl	
t-Bu	$CH_3$	H	Cl	<i>t-</i> Bu	CH <sub>3</sub>	H	C1	t-Bu	CH <sub>3</sub>	H	Cl	
Me	CH <sub>3</sub>	H	Br	Me	CH <sub>3</sub>	H	Br	Me	CH <sub>3</sub>	H	Br	
Et	$CH_3$	H	Br	Et	CH <sub>3</sub>	H	Br	Et	$CH_3$	$\mathbf{H}$	Br	
<i>i</i> -Pr	CH <sub>3</sub>	H	Br	<i>i-</i> Pr	$CH_3$	H	Br	<i>i-</i> Pr	$CH_3$	$\mathbf{H}$	Br	
t-Bu	$CH_3$	H	Br	t-Bu	$CH_3$	H	Br	t-Bu	CH <sub>3</sub>	$\mathbf{H}$	Br	
Me	$CH_3$	F	Cl	Me	CH <sub>3</sub>	F	Cl	Me	CH <sub>3</sub>	F	C1	
Et	CH <sub>3</sub>	F	C1	Et	$CH_3$	F	C1	Et	CH <sub>3</sub>	F	C1	
i-Pr	CH <sub>3</sub>	F	Cl	<i>i-</i> Pr	CH <sub>3</sub>	F	C1	<i>i-</i> Pr	CH <sub>3</sub>	F	· Cl	
t-Bu	CH <sub>3</sub>	F	C1	t-Bu	CH <sub>3</sub>	F	C1	t-Bu	CH <sub>3</sub>	F	C1	
Me	$CH_3$	F	Br	Me	CH <sub>3</sub>	F	Br	Me	CH <sub>3</sub>	F	Br	
Et	CH <sub>3</sub>	F	Br	Et	CH <sub>3</sub>	F	Br	Et	$CH_3$	F	Br	
i-Pr	CH <sub>3</sub>	F	Br	i-Pr	$CH_3$	F	Br	<i>i-</i> Pr	CH <sub>3</sub>	F	Br	
t-Bu	$CH_3$	F	Br	t-Bu	$CH_3$	F	Br	t-Bu	CH <sub>3</sub>	F	Br	
Me	CH <sub>3</sub>	C1	C1	Me	CH <sub>3</sub>	C1	C1	Me	CH <sub>3</sub>	Cl	C1	
Et	$CH_3$	C1	C1	Et	$CH_3$	C1	C1	Et	$CH_3$	Cl	C1	
<i>i-</i> Pr	CH <sub>3</sub>	C1	C1	i-Pr	CH <sub>3</sub>	C1	C1	<i>i-</i> Pr	CH <sub>3</sub>	C1	C1	
t-Bu	CH <sub>3</sub>	C1	Cl	t-Bu	$CH_3$	C1	C1	t-Bu	CH <sub>3</sub>	C1	C1	
Me	$CH_3$	C1	Br	Me	$CH_3$	C1	Br	Me	$CH_3$	Cl	Br	
Et	CH <sub>3</sub>	C1	Br	Et	$CH_3$	C1	Br	Et	CH <sub>3</sub>	Cl	Br	
i-Pr	CH <sub>3</sub>	· C1	Br	<i>i-</i> Pr	CH <sub>3</sub>	C1	Br	i-Pr	CH <sub>3</sub>	Cl	Br	
t-Bu	CH <sub>3</sub>	C1	Br	t-Bu	$CH_3$	C1	Br	t-Bu	CH <sub>3</sub>	Cl	Br	
Me	$CH_3$	Br	Cl	Me	$CH_3$	Br	Cl	Me	CH <sub>3</sub>	Br	Cl	
Et	CH <sub>3</sub>	Br	C1	Et	CH <sub>3</sub>	Br	C1	Et	CH <sub>3</sub>	Br	Cl	
i-Pr	CH <sub>3</sub>	Br	C1	i-Pr	CH <sub>3</sub>	Br	Cl	i-Pr	CH <sub>3</sub>	Br	Cl	

	R <sup>9</sup> is	CHF <sub>2</sub>			R <sup>9</sup> is C	H <sub>2</sub> CF <sub>3</sub>		R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
<u>R<sup>3</sup></u>	R <sup>4a</sup>	$\frac{2}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	$\frac{2}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	$\frac{2}{R^{4b}}$	<u>R</u> 6
t-Bu	CH <sub>3</sub>	Br	C1	t-Bu	CH <sub>3</sub>	Br	Cl	t-Bu	CH <sub>3</sub>	Br	Cl
Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	Br	Br
Et	CH <sub>3</sub>	Br	Br	Et	CH <sub>3</sub>	Br	Br	Et	CH <sub>3</sub>	Br	Br
<i>i-</i> Pr	CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	Br	Br
t-Bu	CH <sub>3</sub>	Br	Br	t-Bu	CH <sub>3</sub>	Br	Br	t-Bu	CH <sub>3</sub>	Br	Br
Me	CH <sub>3</sub>	I	Cl	Ме	CH <sub>3</sub>	I	C1	Me	CH <sub>3</sub>	I	C1
Et	CH <sub>3</sub>	I	C1	Et	CH <sub>3</sub>	I	C1	Et	CH <sub>3</sub>	I	C1
<i>i-</i> Pr	CH <sub>3</sub>	I	Cl	<i>i-</i> Pr	CH <sub>3</sub>	Ι	C1	i-Pr	$CH_3$	I	C1
t-Bu	CH <sub>3</sub>	Ι	C1	t-Bu	$CH_3$	Ι	C1	t-Bu	$CH_3$	I	C1
Me	CH <sub>3</sub>	I	Br	Me	CH <sub>3</sub>	I	Br	Me	$CH_3$	1	Br
Et	$CH_3$	I	Br	Et	CH <sub>3</sub>	I	Br	Et	$CH_3$	I	Br
<i>i</i> -Pr	CH <sub>3</sub>	I	Br	<i>i-</i> Pr	CH <sub>3</sub>	I	Br	<i>i-</i> Pr	$CH_3$	I	Br
t-Bu	CH <sub>3</sub>	1	Br	t-Bu	$CH_3$	Ι	Br	t-Bu	$CH_3$	Ι	Br
Me	CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	CH <sub>3</sub>	CF <sub>3</sub>	Cl	Me	CH <sub>3</sub>	CF <sub>3</sub>	C1
Et	CH <sub>3</sub>	CF <sub>3</sub>	Cl	Et	CH <sub>3</sub>	CF <sub>3</sub>	Cl	Et	CH <sub>3</sub>	CF <sub>3</sub>	C1
i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	Cl	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	C1	i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	C1
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	C1	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	C1	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Cl
Me	CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	CH <sub>3</sub>	CF <sub>3</sub>	Br
Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	· CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br
i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br
n-Pr	CH <sub>3</sub>	C1	Cl	Me	Cl	F	Br	Me	C1	H	Br
<i>n</i> -Bu	$CH_3$	C1	Cl	Et	C1	F	Br	Et	C1	H	Br
s-Bu	CH <sub>3</sub>	C1	C1	<i>i-</i> Pr	C1	F	Br	<i>i-</i> Pr	C1	H	Br
<i>i-</i> Bu	CH <sub>3</sub>	C1	C1	t-Bu	C1	F	Br	t-Bu	Cl	H	Br
Me	Cl	F	Cl	Me	Cl	F	C1	Me .	C1	H	Cl
Et	Cl	F	Cl	Et	Cl	F	Cl	Et	Cl	H	CI
<i>i-</i> Pr	Cl	F	Cl	<i>i-</i> Pr	Cl	F	Cl	i-Pr	C1	H	Cl
t-Bu	Cl	F	Cl	t-Bu	C1	F	C1	<i>i-</i> Pr	C1	H	Cl
Me	Cl	F	Br	Me	Cl	Cl	Br	Me	C1	Ι	Br
Et	CI	F	Br	Et	Cl	C1	Br	Et	Cl	I	Br
<i>i</i> -Pr	Cl	F	Br	<i>i-</i> Pr	Cl	C1	Br	<i>i-</i> Pr	C1	I	Br
t-Bu	Cl	F	Br	t-Bu	Cl	Cl	Br	t-Bu	C1	I	Br
Me	Cl	Cl	Cl	Me	Cl	C1	C1	Me	C1	I	Cl
Et	Cl	C1	Cl	Et	Cl	Cl	C1	Et	C1	I	Cl
<i>i</i> -Pr	Cl	C1	Cl	i-Pr	Cl	Cl	Cl	<i>i</i> -Pr	C1	I	Cl

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	R <sup>9</sup> is	CHF <sub>2</sub>			R <sup>9</sup> is C	CH <sub>2</sub> CF <sub>3</sub>		R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
$\mathbb{R}^3$	$R^{4a}$	$\frac{2}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 6
— <i>t</i> -Bu	<u>C1</u>	Cl	Cl	t-Bu	Cl	C1	Cl	t-Bu	Cl	I	Cl
Me	C1	Н	Br	Me	Cl	H	Br	Me	Cl	F	Br
Et	C1	H	Br	Et	Cl	H	Br	Et	Cl	F	Br
<i>i-</i> Pr	C1	H	Br	<i>i-</i> Pr	Cl	Н	Br	<i>i-</i> Pr	Cl	F	Br
<i>t</i> -Bu	C1	H	Br	<i>t-</i> Bu	Cl	Н	Br	t-Bu	C1	F	Br
Me	C1	н	Cl	Me	C1	H	C1	Me	C1	F	Cl
Et	Cl	н	Cl	Et	C1	H	C1	Et	C1	F	C1
<i>i-</i> Pr	C1	н	Cl	<i>i-</i> Pr	C1	н	C1	<i>i-</i> Pr	Cl	F	C1
t-Bu	C1	$\mathbf{H}$	Cl	<i>t-</i> Bu	Cl	н	Cl	t-Bu	Cl	F	C1
Me	Cl	Br	Br	Me	Cl	Br	Br	Me	Cl	CF <sub>3</sub>	Br
Et	Cl	Br	Br	Et	Cl	Br	Br	Et	C1	CF <sub>3</sub>	Br
<i>i</i> -Pr	Cl	Br	Br	<i>i-</i> Pr	C1	Br	Br	<i>i-</i> Pr	C1	CF <sub>3</sub>	Br
t-Bu	C1	Br	Br	t-Bu	Cl	Br	Br	t-Bu	Cl	CF <sub>3</sub>	Br
Me	C1	Br	Cl	Me	Cl	I	Cl	Me	C1	CF <sub>3</sub>	C1
Et	C1	Br	Cl	Et	C1	I	Cl	Et	C1	CF <sub>3</sub>	Cl
<i>i-</i> Pr	Ç1	Br	Cl	<i>i-</i> Pr	Cl	I	Cl	<i>i-</i> Pr	Cl	CF <sub>3</sub>	C1
t-Bu	C1	Br	Cl	t-Bu	C1	I	Cl	t-Bu	C1	CF <sub>3</sub>	Cl
Me	C1	I	Br	Me	Cl	I	Br	Me	Br	F	C1
Et	C1	I	Br	Et	C1	I	Br	Et	Br	F	C1
i-Pr	C1	I	Br	<i>i-</i> Pr	C1	I	Br	i-Pr	Br	F	C1
t-Bu	C1	I	Br	t-Bu	C1	I	Br	t-Bu	Br	F	Cl
Me	C1	Ι	C1	Me	C1	CF <sub>3</sub>	C1	Me	Br	F	Br
Et	Cl	1	Cl	Et	CI	CF <sub>3</sub>	CI	Et	Br	F	Br
i-Pr	C1	1	C1	i-Pr	C1	CF <sub>3</sub>	Cl	<i>i-</i> Pr	Br	F	Br
t-Bu	C1	I	Cl	t-Bu	C1	CF <sub>3</sub>	Cl	t-Bu	Br	F	Br
Me	Cl	CF <sub>3</sub>	Br	Me	C1	CF <sub>3</sub>	Br	Me	Br	Cl	C1
Et	C1	CF <sub>3</sub>	Br	Et	Cl	CF <sub>3</sub>	Br	Et	Br	Cl	Cl
<i>i-</i> Pr	Cl	CF <sub>3</sub>	Br	i-Pr	Cl	CF <sub>3</sub>	Br	<i>i-</i> Pr	Br	C1	C1
t-Bu	C1	CF <sub>3</sub>	Br	<i>t</i> -Bu	Cl	CF <sub>3</sub>	Br	t-Bu	Br	Cl	Cl
Me	C1	CF <sub>3</sub>	Cl	n-Pr	Cl	C1	Cl	Me	Br	Cl	Br
Et	C1	CF <sub>3</sub>	C1	<i>n-</i> Bu	C1	Cl	C1	Et	Br	Cl	Br
<i>i-</i> Pr	C1	CF <sub>3</sub>	C1	s-Bu	C1	C1	C1	<i>i-</i> Pr	Br	C1	Br
<i>t</i> -Bu	C1	CF <sub>3</sub>	C1	<i>i-</i> Bu	C1	C1	C1	<i>t-</i> Bu	Br	C1	Br
Me	Br	F	C1	Me	Br	F	C1	Me	Br	Br	Cl
Et	Br	F	C1	Et	Br	F	Cl	Et	Br	Br	Cl
<i>i</i> -Pr	Br	F	C1	i-Pr	Br	F	C1	i-Pr	Br	Br	C1

	R9 is	CHF <sub>2</sub>	I		R <sup>9</sup> is C	H <sub>2</sub> CF <sub>3</sub>			R <sup>9</sup> is C	F <sub>2</sub> CHF <sub>2</sub>	
$\underline{R^3}$	<u>R<sup>4a</sup></u>	$\frac{\overline{A^{4b}}}{}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6
t-Bu	Br	F	C1	t-Bu	Br	F	C1	t-Bu	Br	Br	C1
Me	Br	F	Br	Me	Br	F	Br	Ме	Br	Br	Br
Et	Br	F	Br	Et	Br	F	Br	Et	Br	Br	Br
i-Pr	Br	F	Br	i-Pr	Br	F	Br	i-Pr	Br	Br	Br
t-Bu	Br	F	Br	t-Bu	Br	F	Br	t-Bu	Br	Br	Br
Me	Br	C1	C1	Me	Br	Cl	Cl	Me	Br	I	Cl
Et	Br	Cl	Cl	Et	Br	C1	Cl	Et	Br	Ι	C1
i-Pr	Br	C1	C1	i-Pr	Br	Cl	Cl	<i>i-</i> Pr	Br	I	C1
t-Bu	Br	Cl	C1	t-Bu	Br	Cl	C1	t-Bu	Br	I	C1
Me	Br	C1	Br	Me	Br	C1	Br	Me	Br	I	Br
Et	Br	C1	Br	Et	Br	C1	Br	Et	Br	Ι	Br
<i>i</i> -Pr	Br	C1	Br	<i>i-</i> Pr	Br	Cl	Br	<i>i-</i> Pr	Br	I	Br
t-Bu	Br	C1	Br	t-Bu	Br	C1	Br	<i>t</i> -Bu	Br	I	Br
Me	Br	Br	C1	Me	Br	Br	Cl	Me	Br	CF <sub>3</sub>	C1
Et	Br	Br	C1	Et	Br	Br	C1	Et	Br	CF <sub>3</sub>	C1
<i>i</i> -Pr	Br	Br	C1	<i>i-</i> Pr	Br	Br	C1	<i>i-</i> Pr	Br	CF <sub>3</sub>	C1
t-Bu	Br	Br	C1	t-Bu	Br	Br	C1	t-Bu	Br	CF <sub>3</sub>	C1
Me	Br	Br	Br	Me	Br	Br	Br	Me	Br	CF <sub>3</sub>	Br
Et	Br	Br	Br	Et	Br	Br	Br	Et	Br	CF <sub>3</sub>	Br
i-Pr	Br	Br	Br	<i>i-</i> Pr	Br	Br	Br	<i>i-</i> Pr	Br	CF <sub>3</sub>	Br
t-Bu	Br	Br	Br	t-Bu	Br	Br	Br	<i>t-</i> Bu	Br	CF <sub>3</sub>	Br
Me	Br	I	Cl	Me	Br	I	C1	Me	C1	Cl	Br
Et	Br	I	C1	Et	Br	Ι	Cl	Et	C1	Cl	Br
i-Pr	Br	I	C1	<i>i-</i> Pr	Br	Ι	C1	<i>i-</i> Pr	Cl	C1	Br
t-Bu	Br	I	C1	<i>t-</i> Bu	Br	I	C1	t-Bu	C1	Cl	Br
Me	Br	Ι	Br	Me	Br	Ι	Br	Me	C1	Cl	C1
Et	Br	I	Br	Et	Br	I	Br	Et	C1	Cl	C1
<i>i-</i> Pr	Br	Ι	Br	i-Pr	Br	I	Br	<i>i-</i> Pr	C1	Cl	C1
t-Bu	Br	Ι	Br	t-Bu	Br	Ι	Br	t-Bu	C1	Cl	C1

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Table 20

$$\mathbb{R}^{4b}$$

$$\mathbb{R}^{4a}$$

$$\mathbb{N}_{\mathbb{R}^3}$$

$$\mathbb{R}^9$$

$$\mathbb{R}^6$$

	R <sup>9</sup> is	CHF <sub>2</sub>	:	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{1}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4</sup>a</u>	$R^{4b}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	R4b	<u>R</u> 6
Me	CH <sub>3</sub>	H	Cl	Me	CH <sub>3</sub>	Н	Cl	Me	CH <sub>3</sub>	Br	Cl
Et	CH <sub>3</sub>	H	Cl	Et	CH <sub>3</sub>	H	C1	Et	CH <sub>3</sub>	Br	Cl
i-Pr	$CH_3$	H	C1	<i>i-</i> Pr	$CH_3$	H	C1	<i>i-</i> Pr	CH <sub>3</sub>	Br	Cl
t-Bu	CH <sub>3</sub>	H	C1	t-Bu	$CH_3$	H	<b>C</b> 1	t-Bu	$CH_3$	Br	Cl
Me	CH <sub>3</sub>	H	Br	Me	CH <sub>3</sub>	H	Br	Me	$CH_3$	Br	Br
Et	CH <sub>3</sub>	$\mathbf{H}$	Br	Et	$CH_3$	H	Br	Et	$CH_3$	Br	Br
<i>i-</i> Pr	$CH_3$	$\mathbf{H}$	Br	i-Pr	$CH_3$	H	Br	i-Pr	CH <sub>3</sub>	Br	Br
t-Bu	$CH_3$	H	Br	t-Bu	CH <sub>3</sub>	H	Br	t-Bu	CH <sub>3</sub>	Br	Br
Me	CH <sub>3</sub>	F	C1	Me	CH <sub>3</sub>	Br	C1	Me	CH <sub>3</sub>	1	Cl
Et	CH <sub>3</sub>	$\mathbf{F}$	Cl	Et	$CH_3$	Br	C1	Et	CH <sub>3</sub>	I	Cl
<i>i-</i> Pr	CH <sub>3</sub>	F	C1	<i>i-</i> Pr	CH <sub>3</sub>	Br	C1	<i>i-</i> Pr	$CH_3$	I	C1
t-Bu	CH <sub>3</sub>	F	C1	<i>t-</i> Bu	CH <sub>3</sub>	Br	Cl	t-Bu	$CH_3$	I	C1
Me	$CH_3$	F	Br	Me	CH <sub>3</sub>	Br	Br	Me	$CH_3$	I	Br
Et	CH <sub>3</sub>	F	Br	Et	CH <sub>3</sub>	Br	Br	Et	$CH_3$	I	Br
i-Pr	CH <sub>3</sub>	F	Br	<i>i-</i> Pr	CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	I	Br
t-Bu	CH <sub>3</sub>	F	Br	t-Bu	CH <sub>3</sub>	Br	Br	<i>t-</i> Bu	CH <sub>3</sub>	Ι	Br
Me	CH <sub>3</sub>	C1	C1	Me	CH <sub>3</sub>	F	C1	Me	CH <sub>3</sub>	CF <sub>3</sub>	C1
Et	CH <sub>3</sub>	C1	Cl	Et	CH <sub>3</sub>	F	C1	Et	CH <sub>3</sub>	CF <sub>3</sub>	C1
<i>i-</i> Pr	CH <sub>3</sub>	C1	C1	<i>i-</i> Pr	CH <sub>3</sub>	F	Cl	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Cl
t-Bu	CH <sub>3</sub>	C1	C1	t-Bu	CH <sub>3</sub>	F	C1	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	C1
Me	CH <sub>3</sub>	Cl	Br	Me	CH <sub>3</sub>	F	Br	Me	CH <sub>3</sub>	CF <sub>3</sub>	Br
Et	CH <sub>3</sub>	C1	Br	Et	CH <sub>3</sub>	F	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br
<i>i-</i> Pr	CH <sub>3</sub>	Cl	Br	<i>i</i> -Pr	CH <sub>3</sub>	F	Br	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br
t-Bu	CH <sub>3</sub>	C1	Br	t-Bu	CH <sub>3</sub>	F	Br	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br
Me	CH <sub>3</sub>	Br	Cl	Me	CH <sub>3</sub>	C1	C1	Me	CH <sub>3</sub>	Cl	C1
Et	CH <sub>3</sub>	Br	Cl	Et	CH <sub>3</sub>	C1	Cl	Et	CH <sub>3</sub>	Cl	Cl

	R <sup>9</sup> is	CHF <sub>2</sub>		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
$\underline{\mathbb{R}^3}$	<u>R<sup>4a</sup></u>	$\frac{1}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	$\frac{1}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	$\frac{1}{R^{4b}}$	<u>R</u> 6
<i>i</i> -Pr	CH <sub>3</sub>	Br	Cl	<i>i-</i> Pr	CH <sub>3</sub>	Cl	Cl	<i>i-</i> Pr	CH <sub>3</sub>	C1	Cl
t-Bu	CH <sub>3</sub>	Br	Cl	t-Bu	CH <sub>3</sub>	C1	C1	t-Bu	CH <sub>3</sub>	Cl	Cl
Me	$CH_3$	Br	Br	Me	CH <sub>3</sub>	C1	Br	Me	CH <sub>3</sub>	Cl	Br
Et	$CH_3$	Br	Br	Et	CH <sub>3</sub>	C1	Br	Et	$CH_3$	C1	Br
i-Pr	CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	C1	Br	<i>i-</i> Pr	$CH_3$	C1	Br
t-Bu	CH <sub>3</sub>	Br	Br	t-Bu	$CH_3$	C1	Br	<i>t-</i> Bu	CH <sub>3</sub>	C1	Br
Me	CH <sub>3</sub>	I	Cl	Me	CH <sub>3</sub>	I	C1	Me	$CH_3$	н	C1
Et	$CH_3$	I	C1	Et	CH <sub>3</sub>	I	C1	Et	CH <sub>3</sub>	H	C1
i-Pr	$CH_3$	I	C1	<i>i-</i> Pr	CH <sub>3</sub>	I	C1	<i>i-</i> Pr	$CH_3$	H	C1
t-Bu	$CH_3$	I	C1	t-Bu	$CH_3$	I	C1	t-Bu	$CH_3$	H	C1
Me	CH <sub>3</sub>	I	Br	Me	$CH_3$	I	Br	Me	$CH_3$	H	Br
Et	CH <sub>3</sub>	Ι	Br	Et	CH <sub>3</sub>	Ι	Br	Et	CH <sub>3</sub>	H	Br
i-Pr	CH <sub>3</sub>	I	Br	i-Pr	CH <sub>3</sub>	I	Br	i-Pr	CH <sub>3</sub>	Н	Br
t-Bu	CH <sub>3</sub>	I	Br	t-Bu	CH <sub>3</sub>	I	Br	t-Bu	CH <sub>3</sub>	Н	Br
Me	CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	CH <sub>3</sub>	F	C1
Et	CH <sub>3</sub>	CF <sub>3</sub>	C1	Et	CH <sub>3</sub>	CF <sub>3</sub>	C1	Et	CH <sub>3</sub>	F	C1
i-Pr	$CH_3$	CF <sub>3</sub>	C1	i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	C1	<i>i-</i> Pr	CH <sub>3</sub>	F	C1
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	C1	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Cl	t-Bu	CH <sub>3</sub>	F	Cl
Me	CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	CH <sub>3</sub>	F	Br
Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	CH <sub>3</sub>	F	Br
i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	$CH_3$	CF <sub>3</sub>	Br	i-Pr	CH <sub>3</sub>	F	Br
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	$CH_3$	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	F	Br
n-Pr	CH <sub>3</sub>	C1	C1	Me	C1	H	Br	Me	C1	Cl	Br
n-Bu	CH <sub>3</sub>	Cl	C1	Et	C1	H	Br	Et	Cl	C1	Br
s-Bu	CH <sub>3</sub>	C1	Cl	<i>i-</i> Pr	Cl	H	Br	<i>i-</i> Pr	Cl	Cl	Br
<i>i-</i> Bu	CH <sub>3</sub>	Cl	C1	t-Bu	Cl	H	Br	<i>t-</i> Bu	Cl	Cl	Br
Me	CI	I	Br	Me	Cl	H	C1	Me	C1	CI	C1
Et	CI	I	Br	Et	C1	H	C1	Et	Cl	Cl	Cl
i-Pr	Cl	Ι	Br	<i>i-</i> Pr	C1	H	Cl	<i>i-</i> Pr	Cl	CI	Cl
t-Bu	Cl	Ι	Br	<i>t-</i> Bu	Cl	H	Cl	t-Bu	C1	Cl	Cl
Me	C1	I	Cl	Me	C1	C1	Br	Me	Cl	I	Br
Et	Cl	Ι	C1	Et	C1	C1	Br	Et	CI	I	Br
i-Pr	Cl	I	C1	<i>i-</i> Pr	C1	C1	Br	<i>i-</i> Pr	Cl	I	Br
t-Bu	Cl	I	C1	t-Bu	C1	Cl	Br	t-Bu	Cl	I	Br
Me	C1	H	Br	Me	C1	Cl	C1	Me	C1	I	C1
Et	Cl	H	Br	Et	Cl	C1	Cl	Et	Cl	I	Cl

	Pr         Cl         H         E           Bu         Cl         H         E           de         Cl         H         C           Et         Cl         H         C           Pr         Cl         H         C				R <sup>9</sup> is (	CH <sub>2</sub> F <sub>3</sub>		11	R <sup>9</sup> is C	F <sub>2</sub> CHF <sub>2</sub>	
<u>R<sup>3</sup></u>		_	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{2}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{1}{R^{4b}}$	<u>R</u> 6
<i>i-</i> Pr	C1	$\mathbf{H}$	Br	<i>i-</i> Pr	Cl	C1	C1	<i>i-</i> Pr	Cl	I	C1
t-Bu	C1	H	Br	<i>t</i> -Bu	C1	C1	C1	<i>t-</i> Bu	C1	I	C1
Me	Cl	H	Cl	Me	C1	F	Br	Me	C1	F	Br
Et	C1	H	C1	Et	C1	F	Br	Et	C1	F	Br
i-Pr	C1	H	Cl	i-Pr	C1	F	Br	i-Pr	C1	F	Br
t-Bu	C1	H	C1	t-Bu	Cl	F	Br	t-Bu	C1	F	Br
Me	C1	CF <sub>3</sub>	Br	Me	C1	F	C1	Me	C1	F	C1
Et	C1	CF <sub>3</sub>	Br	Et	C1	F	C1	Et	Cl	F	C1
i-Pr	C1	CF <sub>3</sub>	Br	i-Pr	C1	F	C1	i-Pr	Cl	F	C1
t-Bu	C1	CF <sub>3</sub>	Br	<i>t</i> -Bu	C1	F	C1	t-Bu	C1	F	C1
Me	C1	CF <sub>3</sub>	C1	Me	C1	Br	Br	Me	Cl	H	Br
Et	C1	CF <sub>3</sub>	C1	Et	Cl	Br	Br	Et	Cl	H	Br
<i>i-</i> Pr	CI	CF <sub>3</sub>	C1	<i>i-</i> Pr	C1	Br	Br	<i>i-</i> Pr	Cl	H	Br
t-Bu	Cl	CF <sub>3</sub>	C1	<i>t-</i> Bu	C1	Br	Br	t-Bu	Cl	H	Br
Me	Cl	Br	Br	Me	Cl	Ι	C1	Me	C1	H	C1
Et	Cl	Br	Br	Et	C1	Ι	C1	Et	Cl	H	Cl
<i>i-</i> Pr	Cl	Br	Br	<i>i-</i> Pr	Cl	I	C1	i-Pr	C1	H	C1
t-Bu	C1	Br	Br	t-Bu	Cl	I	C1	i-Pr	Cl	H	Cl
Me	Cl	Br	C1	Me	C1	I	Br	Me	Cl	CF <sub>3</sub>	Br
Et	Cl	Br	C1	Et	C1	I	Br	Et	Cl	CF <sub>3</sub>	Br
i-Pr	C1	Br	C1	i-Pr	CI	I	Br	<i>i-</i> Pr	C1	CF <sub>3</sub>	Br
t-Bu	C1	Br	C1	t-Bu	C1	Ι	Br	t-Bu	Cl	CF <sub>3</sub>	Br
Me	C1	F	Br	Me	Cl	CF <sub>3</sub>	C1	Me	C1	CF <sub>3</sub>	C1
Et	C1	F	Br	Et	Cl	CF <sub>3</sub>	C1	Et	Cl	CF <sub>3</sub>	Cl
i-Pr	Cl	F	Br	<i>i-</i> Pr	Cl	CF <sub>3</sub>	Cl	<i>i-</i> Pr	C1	CF <sub>3</sub>	Cl
t-Bu	C1	F	Br	t-Bu	Cl	CF <sub>3</sub>	Cl	t-Bu	C1	CF <sub>3</sub>	C1
Me	C1	C1	Cl	Me	Cl	CF <sub>3</sub>	Br	Me	Br	F	Cl
Et	C1	C1	C1	Et	Cl	CF <sub>3</sub>	Br	Et	Br	F	Cl
<i>i-</i> Pr	Cl	Cl	Cl	<i>i-</i> Pr	C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	Br	F	C1
t-Bu	Cl	C1	Cl	t-Bu	Cl	CF <sub>3</sub>	Br	t-Bu	Br	F	Cl
Me	C1	F	C1	n-Pr	Cl	Cl	C1	Me	Br	F	Br
Et	C1	F	C1	n-Bu	Cl	Cl	Cl	Et	Br	F	Br
<i>i-</i> Pr	C1	F	Cl	s-Bu	Cl	Cl	C1	i-Pr	Br	F	Br
<i>t</i> -Bu	C1	F	Cl	<i>i-</i> Bu	C1	Cl	C1	t-Bu	Br	F	Br
Me	Br	Br	Cl	Me	Br	F	C1	Me	Br	Cl	C1
Et	Br	Br	Cl	Et	Br	F	C1	Et	Br	C1	Cl

	i-Pr Br Br C t-Bu Br Br C				R <sup>9</sup> is (	CH <sub>2</sub> F <sub>3</sub>			R <sup>9</sup> is C	F <sub>2</sub> CHF <sub>2</sub>	
<u>R<sup>3</sup></u>		_	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	$\frac{2}{R}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{2}{R^{4b}}$	<u>R</u> 6
<i>i-</i> Pr	Br	Br	C1	<i>i-</i> Pr	Br	F	C1	<i>i-</i> Pr	Br	Cl	Cl
t-Bu	Br	Br	C1	t-Bu	Br	F	C1	t-Bu	Br	Cl	Cl
Me	Br	Br	Br	Me	Br	F	Br	Me	Br	Cl	Br
Et	Br	Br	Br	Et	Br	F	Br	Et	Br	C1	Br
i-Pr	Br	Br	Br	<i>i-</i> Pr	Br	F	Br	i-Pr	Br	Cl	Br
t-Bu	Br	Br	Br	t-Bu	Br	F	Br	t-Bu	Br	Cl	Br
Me	Br	I	Cl	Me	Br	C1	Cl	Me	Br	Br	Cl
Et	Br	I	C1	Et	Br	C1	C1	Et	Br	Br	Cl
<i>i-</i> Pr	Br	I	C1	<i>i-</i> Pr	Br	Cl	C1	<i>i-</i> Pr	Br	Br	C1
t-Bu	Br	I	C1	<i>t-</i> Bu	Br	C1	C1	t-Bu	Br	Br	Ċl
Me	Br	I	Br	Me	Br	C1	Br	Me	Br	Br	Br
Et	Br	I	Br	Et	Br	C1	Br	Et	Br	Br	Br
<i>i-</i> Pr	Br	I	Br	<i>i-</i> Pr	Br	CI	Br	<i>i-</i> Pr	Br	Br	Br
t-Bu	Br	I	Br	t-Bu	Br	C1	Br	t-Bu	Br	Br	Br
Me	Br	F	C1	Me	Br	I	C1	Me	Br	CF <sub>3</sub>	C1
Et	Br	F	C1	Et	Br	I	C1	Et	Br	CF <sub>3</sub>	C1
i-Pr	Br	F	C1	i-Pr	Br	I	C1	<i>i-</i> Pr	Br	CF <sub>3</sub>	Cl
t-Bu	Br	F	C1	t-Bu	Br	I	C1	t-Bu	Br	CF <sub>3</sub>	Cl
Me	Br	F	Br	Me	Br	I	Br	Me	Br	CF <sub>3</sub>	Br
Et	Br	F	Br	Et	Br	Ι	Br	Et	Br	CF <sub>3</sub>	Br
<i>i-</i> Pr	Br	F	Br	<i>i-</i> Pr	Br	Ι	Br	i-Pr	Br	CF <sub>3</sub>	Br
t-Bu	Br	F	Br	t-Bu	Br	Ι	Br	t-Bu	Br	CF <sub>3</sub>	Br
Me	Br	Cl	C1	Me	Br	Br	C1	Me	Br	Ι	C1
Et	Br	C1	C1	Et	Br	Br	C1	Et	Br	Ι	C1
<i>i-</i> Pr	Br	C1	C1	<i>i-</i> Pr	Br	Br	C1	i-Pr	Br	Ι	C1
t-Bu	Br	C1	C1	<i>t</i> -Bu	Br	Br	C1	<i>t</i> -Bu	Br	Ι	C1
Me	Br	C1	Br	Me	Br	Br	Br	Me	Br	I	Br
Et	Br	C1	Br	Et	Br	Br	Br	Et	Br	Ι	Br
<i>i-</i> Pr	Br	C1	Br	<i>i-</i> Pr	Br	Br	Br	<i>i-</i> Pr	Br	Ι	Br
t-Bu	Br	C1	Br	t-Bu	Br	Br	Br	t-Bu	Br	I	Br
				•							

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Table 21

	$R^9$ is	CHF <sub>2</sub>			$\mathbb{R}^9$ is (	CH <sub>2</sub> F <sub>3</sub>			R <sup>9</sup> is Cl	E2CHF2	
$\mathbb{R}^3$	<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 6
Me	CH <sub>3</sub>	H	C1	Me	CH <sub>3</sub>	H	C1	Me	CH <sub>3</sub>	Br	C1
Et	CH <sub>3</sub>	H	C1	Et	CH <sub>3</sub>	H	C1	Et	CH <sub>3</sub>	Br	Cl
<i>i</i> -Pr	$CH_3$	Н	C1	i-Pr	$CH_3$	H	Cl	<i>i-</i> Pr	$CH_3$	Br	C1
t-Bu	$CH_3$	$\mathbf{H}$	C1	t-Bu	CH <sub>3</sub>	H	C1	t-Bu	CH <sub>3</sub>	Br	C1
Me	$CH_3$	H	Br	Me	$CH_3$	H	Br	Me	$CH_3$	Br	Br
Et	CH <sub>3</sub>	H	Br	Et	CH <sub>3</sub>	H	Br	Et	CH <sub>3</sub>	Br	Br
i-Pr	CH <sub>3</sub>	H	Br	<i>i-</i> Pr	$CH_3$	H	Br	i-Pr	$CH_3$	Br	Br
t-Bu	CH <sub>3</sub>	H	Br	<i>t</i> -Bu	$CH_3$	H	Br	t-Bu	$CH_3$	Br	Br
Me	CH <sub>3</sub>	$\mathbf{F}$	C1	Me	CH <sub>3</sub>	Br	C1	Me	$CH_3$	I	C1
Et	$CH_3$	F	C1	Et	CH <sub>3</sub>	Br	C1	Et	$CH_3$	I	C1
i-Pr	$CH_3$	$\mathbf{F}$	CI	<i>i-</i> Pr	CH <sub>3</sub>	Br	Cl	<i>i-</i> Pr	CH <sub>3</sub>	I	C1
t-Bu	CH <sub>3</sub>	F	Cl	<i>t</i> -Bu	$CH_3$	Br	Cl	t-Bu	CH <sub>3</sub>	I	C1
Me	CH <sub>3</sub>	F	Br	Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	I	Br
Et	CH <sub>3</sub>	F	Br	Et	CH <sub>3</sub>	Br	Br	Et	CH <sub>3</sub>	I	Br
<i>i-</i> Pr	$CH_3$	F	Br	i-Pr	$CH_3$	Br	Br	i-Pr	CH <sub>3</sub>	I	Br
t-Bu	$CH_3$	F	Br	<i>t-</i> Bu	CH <sub>3</sub>	Br	Br	t-Bu	CH <sub>3</sub>	I	Br
Me	CH <sub>3</sub>	Cl	C1	Me	CH <sub>3</sub>	F	C1	Me	CH <sub>3</sub>	CF <sub>3</sub>	C1
Et	CH <sub>3</sub>	Cl	C1	Et	CH <sub>3</sub>	F	Cl	Et	CH <sub>3</sub>	CF <sub>3</sub>	C1
i-Pr	CH <sub>3</sub>	Cl	C1	<i>i-</i> Pr	CH <sub>3</sub>	F	C1	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	C1
t-Bu	CH <sub>3</sub>	Cl	Cl	t-Bu	CH <sub>3</sub>	F	Cl	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	C1
Me	CH <sub>3</sub>	Cl	Br	Me	CH <sub>3</sub>	F	Br	Me	CH <sub>3</sub>	CF <sub>3</sub>	Br
Et	CH <sub>3</sub>	Cl	Br	Et	CH <sub>3</sub>	F	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br
i-Pr	$CH_3$	Cl	Br	<i>i-</i> Pr	$CH_3$	F	Br	i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br
t-Bu	$CH_3$	C1	Br	t-Bu	$CH_3$	F	Br	t-Bu	$CH_3$	CF <sub>3</sub>	Br
Me	CH <sub>3</sub>	Br	C1	Me	CH <sub>3</sub>	C1	C1	Me	CH <sub>3</sub>	C1	C1
Et	CH <sub>3</sub>	Br	Cl	Et	CH <sub>3</sub>	Cl	C1	Et	CH <sub>3</sub>	C1	C1
i-Pr	CH <sub>3</sub>	Br	<b>C</b> 1	<i>i-</i> Pr	$CH_3$	C1	C1	<i>i-</i> Pr	CH <sub>3</sub>	Cl	Cl

	R <sup>9</sup> is	CHF <sub>2</sub>		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$					R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	$\frac{1}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{2}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>		<u>R</u> 6	
t-Bu	CH <sub>3</sub>	Br	Cl	t-Bu	СН3	C1	Cl	<i>t-</i> Bu	CH <sub>3</sub>	Cl	C1	
Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	Cl	Br	Me	CH <sub>3</sub>	Cl	Br	
Et	CH <sub>3</sub>	Br	Br	Et	CH <sub>3</sub>	Cl	Br	Et	CH <sub>3</sub>	C1	Br	
i-Pr	CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	C1	Br	<i>i-</i> Pr	CH <sub>3</sub>	Cl	Br	
t-Bu	$CH_3$	Br	Br	<i>t</i> -Bu	CH <sub>3</sub>	C1	Br	<i>t</i> -Bu	CH <sub>3</sub>	Cl	Br	
Me	CH <sub>3</sub>	I	Cl	Me	CH <sub>3</sub>	I	C1	Me	$CH_3$	н	<b>C</b> 1	
Et	CH <sub>3</sub>	Ι	Cl	Et	CH <sub>3</sub>	I	C1	Et	CH <sub>3</sub>	$\mathbf{H}$	Cl	
<i>i-</i> Pr	CH <sub>3</sub>	I	Cl	i-Pr	CH <sub>3</sub>	I	C1	<i>i-</i> Pr	CH <sub>3</sub>	H	Cl	
t-Bu	CH <sub>3</sub>	I	Cl	t-Bu	CH <sub>3</sub>	I	Cl	t-Bu	CH <sub>3</sub>	H	Cl	
Me	$CH_3$	I	Br	Me	CH <sub>3</sub>	I	Br	Me	CH <sub>3</sub>	Н	Br	
Et	$CH_3$	I	Br	Et	CH <sub>3</sub>	I	Br	Et	CH <sub>3</sub>	Н	Br	
<i>i</i> -Pr	$CH_3$	I	Br	<i>i-</i> Pr	CH <sub>3</sub>	I	Br	<i>i-</i> Pr	CH <sub>3</sub>	Н	Br	
t-Bu	CH <sub>3</sub>	I	Br	t-Bu	CH <sub>3</sub>	I	Br	<i>t</i> -Bu	CH <sub>3</sub>	H	Br	
Me	$CH_3$	CF <sub>3</sub>	Cl	Me	CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	CH <sub>3</sub>	F	Cl	
Et	$CH_3$	CF <sub>3</sub>	Cl	Et	CH <sub>3</sub>	CF <sub>3</sub>	C1	Et	CH <sub>3</sub>	F	C1	
i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	Cl	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	C1	<i>i-</i> Pr	CH <sub>3</sub>	F	C1	
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	C1	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Cl	t-Bu	CH <sub>3</sub>	F	C1	
Me	CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	$CH_3$	CF <sub>3</sub>	Br	Me	$CH_3$	F	Br	
Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	$CH_3$	CF <sub>3</sub>	Br	Et	$CH_3$	F	Br	
i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	$CH_3$	F	Br	
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	F	Br	
n-Pr	CH <sub>3</sub>	Cl	C1	Me	Cl	H	Br	Me	C1	C1	Br	
<i>n</i> -Bu	CH <sub>3</sub>	C1	C1	Et	Cl	H	Br	Et	C1	C1	Br	
s-Bu	CH <sub>3</sub>	C1	C1	<i>i-</i> Pr	Cl	H	Br	<i>i-</i> Pr	Cl	Cl	Br	
<i>i-</i> Bu	CH <sub>3</sub>	C1	C1	t-Bu	C1	H	Br	t-Bu	Cl	Cl	Br	
Me	C1	I	Br	Me	C1	H	C1	Me	C1	C1	C1	
Et	Cl	I	Br	Et	CI	H	Cl	Et	Cl	Cl	Cl	
<i>i-</i> Pr	Cl	Ι	Br	<i>i-</i> Pr	C1	H	C1	<i>i-</i> Pr	Cl	Cl	C1	
t-Bu	Cl	I	Br	t-Bu	C1	H	C1	t-Bu	C1	C1	Cl	
Me	Cl	I	C1	Me	C1	C1	Br	Me	C1	Ι	Br	
Et	Cl	I	C1	Et	C1	C1	Br	Et	Cl	I	Br	
<i>i-</i> Pr	C1	Ι	Cl	i-Pr	Cl	C1	Br	<i>i-</i> Pr	C1	Ι	Br	
t-Bu	Cl		C1	t-Bu	C1	C1	Br	<i>t</i> -Bu	Cl	I	Br	
Me	Cl	H	Br	Me	C1	C1	C1	Me	C1	I	C1	
Et	C1	H	Br	Et	Cl	C1	C1	Et	C1	I	C1	
<i>i</i> -Pr	Cl	H	Br	<i>i-</i> Pr	C1	C1	C1	<i>i-</i> Pr	C1	I	Cl	

	u Cl H B				R <sup>9</sup> is 0	CH <sub>2</sub> F <sub>3</sub>			R <sup>9</sup> is C	F <sub>2</sub> CHF <sub>2</sub>	
$\underline{\mathbb{R}^3}$	$R^{4a}$	$R^{4b}$	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	$\frac{1}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$\mathbb{R}^{4b}$	<u>R</u> 6
t-Bu	C1	$\mathbf{H}$	Br	<i>t</i> -Bu	C1	Cl	C1	t-Bu	Cl	I	Cl
Me	Cl	$\mathbf{H}$	Cl	Me	C1	F	Br	Me	C1	F	Br
Et	C1	H	C1	Et	C1	F	Br	Et	C1	F	Br
i-Pr	C1	H	C1	i-Pr	C1	F	Br	<i>i-</i> Pr	Cl	$\mathbf{F}$	Br
t-Bu	C1	H	C1	t-Bu	C1	F	Br	t-Bu	C1	F	Br
Me	Cl	CF <sub>3</sub>	Br	Ме	C1	F	Cl	Me	C1	F	Cl
Et	C1	CF <sub>3</sub>	Br	Et	Cl	F	C1	Et	C1	F	C1
i-Pr	C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	C1	F	C1	i-Pr	Cl	F	C1
t-Bu	C1	CF <sub>3</sub>	Br	<i>t-</i> Bu	C1	F	C1	t-Bu	Cl	F	Cl
Me	Cl	CF <sub>3</sub>	Cl	Me	C1	Br	Br	Me	Cl	H	Br
Et	Cl	CF <sub>3</sub>	C1	Et	Cl	Br	Br	Et	Cl	H	Br
<i>i-</i> Pr	C1	CF <sub>3</sub>	C1	<i>i-</i> Pr	C1	Br	Br	i-Pr	C1	H	Br
t-Bu	C1	CF <sub>3</sub>	C1	t-Bu	C1	Br	Br	t-Bu	C1	H	Br
Me	C1	Br	Br	Me	C1	$\mathbf{I}$	C1	Me	Cl	H	C1
Et	C1	Br	Br	Et	C1	I	C1	Et	C1	H	C1
<i>i</i> -Pr	C1	Br	Br	<i>i-</i> Pr	C1	Ι	C1	<i>i-</i> Pr	C1	H	C1
t-Bu	C1	Br	Br	t-Bu	. <b>C</b> l	I	C1	<i>i-</i> Pr	C1	H	Cl
Me	C1	Br	C1	Me	Cl	Ι	Br	Me	C1	CF <sub>3</sub>	Br
Et	Cl	Br	Cl	Et	C1	Ι	Br	Et	C1	CF <sub>3</sub>	Br
<i>i-</i> Pr	C1	Br	C1	<i>i-</i> Pr	C1	Ι	Br	i-Pr	Cl	CF <sub>3</sub>	Br
t-Bu	Cl	Br	C1	t-Bu	Cl	I	Br	t-Bu	C1	CF <sub>3</sub>	Br
Me	Cl	F	Br	Me	Cl	CF <sub>3</sub>	Cl	Me	Cl	CF <sub>3</sub>	C1
Et	C1	F	Br	Et	Cl	CF <sub>3</sub>	Cl	Et	Cl	CF <sub>3</sub>	Cl
<i>i-</i> Pr	Cl	F	Br	<i>i-</i> Pr	C1	CF <sub>3</sub>	Cl	<i>i-</i> Pr	Cl	CF <sub>3</sub>	Cl
<i>t-</i> Bu	C1	F	Br	t-Bu	Cl	CF <sub>3</sub>	Cl	<i>t-</i> Bu	Cl	CF <sub>3</sub>	C1
Me	Cl	Cl	C1	Me	Cl	CF <sub>3</sub>	Br	Me	Br	F	C1
Et	Cl	Cl	C1	Et	Cl	CF <sub>3</sub>	Br	Et	Br	F -	Cl
i-Pr	Cl	C1	Cl	<i>i-</i> Pr	Cl	CF <sub>3</sub>	Br	<i>i-</i> Pr	Br	F -	C1
t-Bu	C1	C1	C1	t-Bu	Cl	CF <sub>3</sub>	Br	<i>t</i> -Bu	Br	F _	C1
Me	CI	F	C1	n-Pr	Cl	Cl	Cl	Me	Br	F	Br
Et	Cl	F	C1	n-Bu	C1	C1	C1	Et	Br	F –	Br
<i>i</i> -Pr	C1	F	Cl	s-Bu	C1	C1	Cl	i-Pr	Br -	F -	Br
t-Bu	C1	F	C1	i-Bu	Cl	C1	C1	t-Bu	Br	F	Br
Me	Br	Br	Cl	Me	Br	F	C1	Me	Br	C1	C1
Et	Br	Br	C1	Et	Br	F	C1	Et	Br	C1	C1
<i>i-</i> Pr	Br	Br	Cl	<i>i</i> -Pr	Br	F	Cl	<i>i</i> -Pr	Br	Cl	C1

	R <sup>9</sup> is	CHF <sub>2</sub>			R <sup>9</sup> is (	CH <sub>2</sub> F <sub>3</sub>			R <sup>9</sup> is Cl	E <sub>2</sub> CHF <sub>2</sub>	
<u>R<sup>3</sup></u>	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	$\frac{=}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup> .	_ <sub>R4b</sub> _	<u>R</u> 6
t-Bu	Br	Br	Cl	<i>t</i> -Bu	Br	F	C1	t-Bu	Br	Cl	Cl
Me	Br	Br	Br	Me	Br	F	Br	Me	Br	Cl	Br
Et	Br	Br	Br	Et	Br	F	Br	Et	Br	C1	Br
<i>i-</i> Pr	Br	Br	Br	<i>i-</i> Pr	Br	F	Br	<i>i-</i> Pr	Br	Cl	Br
t-Bu	Br	Br	Br	<i>t-</i> Bu	Br	F	Br	t-Bu	Br	Cl	Br
Me	Br	I	C1	Me	Br	Cl	C1	Me	Br	Br	C1
Et	Br	I	C1	Et	Br	Cl	C1	Et	Br	Br	C1
<i>i-</i> Pr	Br	I	C1	<i>i-</i> Pr	Br	Cl	C1	<i>i-</i> Pr	Br	Br	Cl
t-Bu	Br	I	C1	<i>t-</i> Bu	Br	Cl	C1	t-Bu	Br	Br	C1
Me	Br	I	Br	Me	Br	Cl	Br	Ме	Br	Br	Br
Et	Br	I	Br	Et	Br	C1	Br	Et	Br	Br	Br
i-Pr	Br	I	Br	i-Pr	Br	Cl	Br	<i>i-</i> Pr	Br	Br	Br
t-Bu	Br	I	Br	t-Bu	Br	Cl	Br	<i>t-</i> Bu	Br	Br	Br
Me	Br	F	C1	Me	Br	I	C1	Me	Br	CF <sub>3</sub>	C1
Et	Br	F	C1	Et	Br	I	C1	Et	Br	CF <sub>3</sub>	C1
<i>i-</i> Pr	Br	F	C1	<i>i-</i> Pr	Br	I	C1	<i>i-</i> Pr	Br	CF <sub>3</sub>	Cl
t-Bu	Br	$\mathbf{F}$	C1	<i>t-</i> Bu	Br	I	C1	t-Bu	Br	CF <sub>3</sub>	C1
Me	Br	F	Br	Me	Br	I	Br	Me	Br	CF <sub>3</sub>	Br
Et	Br	F	Br	Et	Br	I	Br	Et	Br	CF <sub>3</sub>	Br
<i>i-</i> Pr	Br	F	Br	i-Pr	Br	I	Br	i-Pr	Br	CF <sub>3</sub>	Br
t-Bu	Br	F	Br	t-Bu	Br	I	Br	t-Bu	Br	CF <sub>3</sub>	Br
Me	Br	Cl	Cl	Me	Br	Br	C1	Me	Br	I	C1
Et	Br	C1	C1	Et	Br	Br	C1	Et	Br	I	Cl
i-Pr	Br	C1	CI	<i>i-</i> Pr	Br	Br	C1	<i>i-</i> Pr	Br	I	Cl
t-Bu	Br	C1	C1	t-Bu	Br	Br	C1	t-Bu	Br	Ι	C1
Me	Br	CI	Br	Me	Br	Br	Br	Me	Br	I	Br
Et	Br	C1	Br	Et	Br	Br	Br	Et	Br	Ι	Br
i-Pr	Br	C1	Br	i-Pr	Br	Br	Br	i-Pr	Br	Ι	Br
t-Bu	Br	Cl	Br	<i>t</i> -Bu	Br	Br	Br	t-Bu	Br	Ι	Br

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Table 22

$$R^{4b}$$
 $R^{4a}$ 
 $NH$ 
 $R^{3}$ 

	$\mathbb{R}^9$ is	CHF <sub>2</sub>			$\mathbb{R}^9$ is C	H <sub>2</sub> CF <sub>3</sub>			R <sup>9</sup> is Cl	F <sub>2</sub> CHF <sub>2</sub>	
$\underline{\mathbb{R}^3}$	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	R <sup>4b</sup>	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>R<sup>4b</sup></u>	<u>R</u> 6
Me	CH <sub>3</sub>	H	C1	Me	$CH_3$	H	C1	Me	CH <sub>3</sub>	Н	C1
Et	CH <sub>3</sub>	H	C1	Et	CH <sub>3</sub>	H	Cl	Et	$CH_3$	H	C1
<i>i-</i> Pr	$CH_3$	H	Cl	i-Pr	CH <sub>3</sub>	H	Cl	i-Pr	CH <sub>3</sub>	H	Cl
t-Bu	$CH_3$	H	Cl	t-Bu	CH <sub>3</sub>	H	Cl	t-Bu	$CH_3$	H	C1
Me	CH <sub>3</sub>	H	Br	Me	CH <sub>3</sub>	H	Br	Me	CH <sub>3</sub>	H	Br
Et	$CH_3$	H	Br	Et	$CH_3$	H	Br	Et	CH <sub>3</sub>	H	Br
i-Pr	$CH_3$	H	Br	<i>i-</i> Pr	$CH_3$	H	Br	i-Pr	CH <sub>3</sub>	H	Br
t-Bu	CH <sub>3</sub>	H	Br	t-Bu	$CH_3$	H	Br	t-Bu	$CH_3$	H	Br
Me	$CH_3$	F	Cl	Me,	$CH_3$	F	C1	Me	$CH_3$	F	C1
Et	CH <sub>3</sub>	F	C1	Et	$CH_3$	F	C1	Et	CH <sub>3</sub>	F	<b>C</b> 1
i-Pr	$CH_3$	F	C1	<i>i-</i> Pr	$CH_3$	F	C1	<i>i</i> -Pr	$CH_3$	F	Cl
t-Bu	$CH_3$	F	C1	t-Bu	$CH_3$	F	Cl	t-Bu	$CH_3$	F	C1
Me	$CH_3$	F	Br	Me	$CH_3$	F	Br	Me	$CH_3$	F	Br
Et	CH <sub>3</sub>	F	Br	Et	$CH_3$	F	Br	Et	$CH_3$	F	Br
<i>i-</i> Pr	$CH_3$	F	Br	<i>i-</i> Pr	$CH_3$	F	Br	<i>i-</i> Pr	$CH_3$	F	Br
t-Bu	CH <sub>3</sub>	F	Br	<i>t-</i> Bu	$CH_3$	F	Br	t-Bu	CH <sub>3</sub>	F	Br
Me	$CH_3$	C1	C1	Me	$CH_3$	Cl	C1	Me	CH <sub>3</sub>	C1	Cl
Et	CH <sub>3</sub>	C1	C1	Et	$CH_3$	C1	C1	Et	CH <sub>3</sub>	C1	C1
<i>i-</i> Pr	$CH_3$	C1	C1	<i>i-</i> Pr	CH <sub>3</sub>	C1	C1	i-Pr	CH <sub>3</sub>	Cl	C1
t-Bu	CH <sub>3</sub>	Cl	C1	t-Bu	$CH_3$	Cl	Cl	t-Bu	CH <sub>3</sub>	C1	Cl
Me	$CH_3$	C1	Br	Me	$CH_3$	Cl	Br	Me	$CH_3$	C1	Br
Et	$CH_3$	C1	Br	Et	$CH_3$	C1	Br	Et	CH <sub>3</sub>	C1	Br
<i>i-</i> Pr	CH <sub>3</sub>	C1	Br	<i>i-</i> Pr	$CH_3$	C1	Br	<i>i-</i> Pr	$CH_3$	Cl	Br
t-Bu	CH <sub>3</sub>	C1	Br	<i>t</i> -Bu	$CH_3$	Cl	Br	t-Bu	$CH_3$	Cl	Br
Me	CH <sub>3</sub>	Br	C1	Me	$CH_3$	Br	Cl	Me	$CH_3$	Br	C1
Et	CH <sub>3</sub>	Br	C1	Et	$CH_3$	Br	Cl	Et	$CH_3$	Br	C1

**WO** 02/48137

PCT/US01/47572

	R <sup>9</sup> is	CHF <sub>2</sub>			R <sup>9</sup> is C	H <sub>2</sub> CF <sub>3</sub>			R <sup>9</sup> is CI	E2CHF2	
<u>R</u> 3	$\mathbb{R}^{4a}$	$\mathbf{R}^{\overline{4b}}$	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	$\frac{1}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>		<u>R</u> 6
<i>i-</i> Pr	CH <sub>3</sub>	Br	C1	<i>i-</i> Pr	CH <sub>3</sub>	Br	C1	<i>i-</i> Pr	CH <sub>3</sub>	Br	C1
t-Bu	CH <sub>3</sub>	Br	C1	<i>t-</i> Bu	CH <sub>3</sub>	Br	C1	<i>t-</i> Bu	CH <sub>3</sub>	Br	Cl
Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	Br	Br
Et	CH <sub>3</sub>	Br	Br	Et	CH <sub>3</sub>	Br	Br	Et	CH <sub>3</sub>	Br	Br
<i>i</i> -Pr	$CH_3$	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	Br	Br
t-Bu	CH <sub>3</sub>	Br	Br	<i>t</i> -Bu	$CH_3$	Br	Br	t-Bu	CH <sub>3</sub>	Br	Br
Me	CH <sub>3</sub>	I	Cl	Me	$CH_3$	I	C1	Me	CH <sub>3</sub>	I	C1
Et	$CH_3$	Ι	C1	Et	CH <sub>3</sub>	Ι	C1	Et	CH <sub>3</sub>	I	C1
i-Pr	CH <sub>3</sub>	I	C1	i-Pr	$CH_3$	I	C1	<i>i-</i> Pr	CH <sub>3</sub>	I	C1
t-Bu	$CH_3$	I	Cl	t-Bu	CH <sub>3</sub>	Ι	C1	t-Bu	CH <sub>3</sub>	I	C1
Me	$CH_3$	I	Br	Me	CH <sub>3</sub>	I	Br	Me	CH <sub>3</sub>	I	Br
Et	$CH_3$	I	Br	Et	CH <sub>3</sub>	I	Br	Et	CH <sub>3</sub>	I	Br
i-Pr	CH <sub>3</sub>	Ι	Br	<i>i-</i> Pr	CH <sub>3</sub>	I	Br	<i>i</i> -Pr	CH <sub>3</sub>	Ι	Br
t-Bu	CH <sub>3</sub>	I	Br	t-Bu	$CH_3$	I	Br	t-Bu	CH <sub>3</sub>	I	Br
Me	CH <sub>3</sub>	CF <sub>3</sub>	Cl	Me	$CH_3$	CF <sub>3</sub>	C1	Me	CH <sub>3</sub>	CF <sub>3</sub>	C1
Et	CH <sub>3</sub>	CF <sub>3</sub>	Cl	Et	$CH_3$	CF <sub>3</sub>	C1	Et	$CH_3$	CF <sub>3</sub>	C1
<i>i</i> -Pr	CH <sub>3</sub>	CF <sub>3</sub>	Cl	<i>i-</i> Pr	$CH_3$	CF <sub>3</sub>	Cl	<i>i</i> -Pr	CH <sub>3</sub>	CF <sub>3</sub>	C1
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Cl	t-Bu	$CH_3$	CF <sub>3</sub>	C1	t-Bu	$CH_3$	CF <sub>3</sub>	C1
Me	CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	$CH_3$	CF <sub>3</sub>	Br	Me	CH <sub>3</sub>	CF <sub>3</sub>	Br
Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br
<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br
n-Pr	CH <sub>3</sub>	Cl	Cl	Me	Cl	F	Br	Me	C1	Н	Br
n-Bu	CH <sub>3</sub>	C1	Cl	Et	C1	F	Br	Et	C1	H	Br
s-Bu	CH <sub>3</sub>	Cl	Cl	i-Pr	C1	F	Br	i-Pr	C1	H	Br
<i>i-</i> Bu	CH <sub>3</sub>	C1	Cl	t-Bu	C1	F	Br	t-Bu	Cl	H	Br
Me	Cl	F	Cl	Me	C1	F	C1	Me	C1	H	Cl
Et	C1	F	Cl	Et	C1	F	C1	Et	C1	H	C1
i-Pr	C1	F	Cl	i-Pr	C1	F	C1	<i>i-</i> Pr	C1	H	C1
t-Bu	C1	F	C1	<i>t</i> -Bu	C1	F	Cl	<i>i-</i> Pr	C1	H	Cl
Me	C1	F	Br	Me	C1	Cl	Br	Me	Cl	Ι	Br
Et	C1	F	Br	Et	C1	C1	Br	Et	C1	I	Br
i-Pr	C1	F	Br	<i>i-</i> Pr	C1	C1	Br	<i>i-</i> Pr	C1	I	Br
t-Bu	Cl	F	Br	<i>t-</i> Bu	Cl	Cl	Br	<i>t</i> -Bu	C1	I	Br
Me	CI	C1	Cl	Me	Cl	CI	Cl	Me	Cl	I	CI
Et	Cl	C1	C1	Et	Cl	C1	C1	Et	Cl	Ι	C1

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	i-Pr Cl Cl Cl				$\frac{R^9 \text{ is } CH_2CF_3}{R^9 \text{ is } CH_2CF_3}$				R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
$\mathbb{R}^3$		_	<u>R</u> 6	$\mathbb{R}^3$	R <sup>4a</sup>	R <sup>4b</sup>	<u>R</u> 6	<u>R</u> 3	R <sup>4a</sup>	R4b	<u>R</u> 6	
i-Pr	CI		C1	<i>i</i> -Pr		Cl	<u></u>	<i>i-</i> Pr			Cl	
<i>t</i> -Bu	Cl	Cl	C1	<i>t-</i> Bu	Cl	C1	C1	t-Bu	Cl	I	Cl	
Me	C1	H	Br	Me	Cl	H	Br	Me	C1	F	Br	
Et	C1	H	Br	Et	C1	H	Br	Et	Cl	F	Br	
i-Pr	C1	Н	Br	<i>i-</i> Pr	C1	H	Br	<i>i-</i> Pr	C1	F	Br	
t-Bu	C1	H	Br	<i>t</i> -Bu	Cl	H	Br	t-Bu	Cl	F	Br	
Me	Cl	H	C1	Me	C1	H	C1	Me	C1	F	Cl	
Et	C1	$\mathbf{H}$	C1	Et	C1	H	C1	Et	C1	F	C1	
i-Pr	C1	Н	C1	<i>i-</i> Pr	C1	H	C1	<i>i-</i> Pr	Cl	F	C1	
t-Bu	C1	H	C1	t-Bu	Cl	H	Cl	<i>t-</i> Bu	Cl	F	C1	
Me	C1	Br	Br	Ме	Cl	Br	Br	Me	C1	CF <sub>3</sub>	Br	
Et	Cl	Br	Br	Et	C1	Br	Br	Et	C1	CF <sub>3</sub>	Br	
i-Pr	C1	Br	Br	i-Pr	C1	Br	Br	<i>i-</i> Pr	C1	CF <sub>3</sub>	Br	
t-Bu	C1	Br	Br	t-Bu	C1	Br	Br	t-Bu	C1	CF <sub>3</sub>	Br	
Me	C1	Br	C1	Me	Cl	I	Cl	Me	C1	CF <sub>3</sub>	C1	
Et	C1	Br	Cl	Et	C1	I	C1	Et	C1	CF <sub>3</sub>	C1	
i-Pr	Cl	Br	C1	<i>i-</i> Pr	C1	I	C1	<i>i-</i> Pr	C1	CF <sub>3</sub>	C1	
t-Bu	Cl	Br	C1	t-Bu	Cl	I	C1	t-Bu	C1	CF <sub>3</sub>	Cl	
Me	C1	I	Br	Me	C1	I	Br	Me	Br	F	Cl	
Et	C1	I	Br	Et	C1	I	Br	Et	Br	F	C1	
<i>i</i> -Pr	C1	I	Br	i-Pr	C1	I	Br	i-Pr	Br	F	C1	
t-Bu	C1	I	Br	t-Bu	C1	I	Br	t-Bu	Br	F	C1	
Me	C1	1	C1	Ме	C1	CF <sub>3</sub>	C1	Me	Br	F	Br	
Et	Cl	I	C1	Et	Cl	CF <sub>3</sub>	C1	Et	Br	F	Br	
i-Pr	Cl	I	C1	i-Pr	C1	CF <sub>3</sub>	Cl	<i>i-</i> Pr	Br	F	Br	
t-Bu	Cl	I	Cl	t-Bu	Cl	CF <sub>3</sub>	Cl	t-Bu	Br	F	Br	
Me	C1	CF <sub>3</sub>	Br	Me	C1	CF <sub>3</sub>	Br	Me	Br	C1	Cl	
Et	C1	CF <sub>3</sub>	Br	Et	Cl	CF <sub>3</sub>	Br	Et	Br	<b>C</b> 1	C1	
<i>i-</i> Pr	C1	CF <sub>3</sub>	Br	i-Pr	Cl	CF <sub>3</sub>	Br	<i>i</i> -Pr	Br	Cl	C1	
t-Bu	Cl	CF <sub>3</sub>	Br	t-Bu	C1	CF <sub>3</sub>	Br	t-Bu	Br	Cl	Cl	
Me	C1	CF <sub>3</sub>	C1	n-Pr	<b>C</b> 1	Cl	Cl	Me	Br	C1	Br	
Et	C1	CF <sub>3</sub>	C1	n-Bu	C1	C1	C1	Et	Br	C1	Br	
<i>i</i> -Pr	Cl	CF <sub>3</sub>	, C1	s-Bu	C1	Cl	Cl	i-Pr	Br	Cl	Br	
t-Bu	C1	CF <sub>3</sub>	Cl	i-Bu	Cl	C1	C1	t-Bu	Br	Cl	Br	
Me	Br	F	C1	Me	Br	F	C1	Me	Br	Br	Cl	
Et	Br	F	Cl	Et	Br	F	C1	Et	Br	Br	Cl	

	R <sup>9</sup> is	CHF <sub>2</sub>		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
<u>R</u> 3	<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	$\frac{2}{R^{4b}}$	<u>R</u> 6	<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	$=$ $R^{4b}$	<u>R</u> 6
<i>i</i> -Pr	Br	F	C1	<i>i-</i> Pr	Br	F	C1	<i>i-</i> Pr	Br	Br	C1
t-Bu	Br	F	C1	t-Bu	Br	F	Cl	t-Bu	Br	Br	C1
Me	Br	F	Br	Me	Br	F	Br	Me	Br	Br	Br
Et	Br	F	Br	Et	Br	F	Br	Et	Br	Br	Br
<i>i-</i> Pr	Br	F	Br	i-Pr	Br	F	Br	<i>i-</i> Pr	Br	Br	Br
t-Bu	Br	F	Br	t-Bu	Br	F	Br	t-Bu	Br	Br	Br
Me	Br	C1	C1	Me	Br	C1	C1	Me	Br	Ι	Cl
Et	Br	C1	Cl	Et	Br	C1	C1	Et	Br	I	C1
<i>i-</i> Pr	Br	C1	Cl	i-Pr	Br	C1	Cl	i-Pr	Br	1	C1
t-Bu	Br	Cl	Cl	t-Bu	Br	C1	Cl	t-Bu	Br	Ι	Cl
Me	Br	C1	Br	Ме	Br	C1	Br	Me	Br	Ι	Br
Et	Br	C1	Br	Et	Br	C1	Br	Et	Br	Ι	Br
i-Pr	Br	C1	Br	i-Pr	Br	Cl	Br	i-Pr	Br	I	Br
t-Bu	Br	C1	Br	<i>t</i> -Bu	Br	Cl	Br	t-Bu	Br	I	Br
Me	Br	Br	C1	Me	Br	Br	Cl	Me	Br	CF <sub>3</sub>	Cl
Et	Br	Br	C1	Et	Br	Br	C1	Et	Br	CF <sub>3</sub>	Cl
i-Pr	Br	Br	C1	i-Pr	Br	Br	C1	<i>i-</i> Pr	Br	CF <sub>3</sub>	C1
t-Bu	Br	Br	C1	t-Bu	Br	Br	C1	t-Bu	Br	CF <sub>3</sub>	CI
Me	Br	Br	Br	Me	Br	Br	Br	Me	Br	CF <sub>3</sub>	Br
Et	Br	Br	Br	Et	Br	Br	Br	Et	Br	CF <sub>3</sub>	Br
<i>i-</i> Pr	Br	Br	Br	i-Pr	Br	Br	Br	<i>i-</i> Pr	Br	CF <sub>3</sub>	Br
t-Bu	Br	Br	Br	t-Bu	Br	$\mathbf{Br}$	Br	<i>t</i> -Bu	Br	CF <sub>3</sub>	Br
Me	Br	I	C1	Me	Br	I	Cl	Me	C1	Cl	Br
Et	Br	I	C1	Et	Br	I	C1	Et	C1	Cl	Br
<i>i-</i> Pr	Br	I	C1	<i>i-</i> Pr	Br	I	C1	<i>i-</i> Pr	C1	Cl	Br
t-Bu	Br	I	C1	t-Bu	Br	1	C1	<i>t</i> -Bu	C1	Cl	Br
Me	Br	I	Br	Me	Br	I	Br	Me	Cl	Cl	Cl
Et	Br	Ι	Br	Et	Br	I	Br	Et	C1	Cl	C1
<i>i-</i> Pr	Br	I	Br	<i>i-</i> Pr	Br	Ι	Br	<i>i-</i> Pr	C1	Cl	C1
t-Bu	Br	Ι	Br	t-Bu	Br	Ι	Br	t-Bu	C1	C1	C1

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Table 23

$$R^{4b}$$
 $R^{4a}$ 
 $N$ 
 $R^{9}$ 
 $R^{6}$ 
 $R^{6}$ 

	$\mathbb{R}^9$ is	CHF <sub>2</sub>		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
$\underline{R^3}$	$R^{4a}$	$\overline{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6
Me	CH <sub>3</sub>	H	C1	Ме	CH <sub>3</sub>	H	C1	Me	CH <sub>3</sub>	H	C1
Et	$CH_3$	H	Cl	Et	CH <sub>3</sub>	H	C1	Et	CH <sub>3</sub>	H	C1
<i>i</i> -Pr	$CH_3$	H	C1	<i>i-</i> Pr	CH <sub>3</sub>	H	C1	<i>i-</i> Pr	CH <sub>3</sub>	$\mathbf{H}$	C1
t-Bu	$CH_3$	H	C1	t-Bu	CH <sub>3</sub>	H	C1	t-Bu	CH <sub>3</sub>	$\mathbf{H}$	C1
Me	$CH_3$	H	Br	Me	CH <sub>3</sub>	H	Br	Me	CH <sub>3</sub>	$\mathbf{H}$	Br
Et	CH <sub>3</sub>	H	Br	Et	CH <sub>3</sub>	H ,	Br	Et	$CH_3$	H	Br
i-Pr	$CH_3$	H	Br	<i>i-</i> Pr	$CH_3$	H	Br	<i>i-</i> Pr	CH <sub>3</sub>	$\mathbf{H}$	Br
t-Bu	$CH_3$	$\mathbf{H}$	Br	t-Bu	$CH_3$	H	Br	t-Bu	CH <sub>3</sub>	H	Br
Me	CH <sub>3</sub>	F	C1	Me	CH <sub>3</sub>	F	C1	Me	$CH_3$	F	C1
Et	CH <sub>3</sub>	F	C1	Et	$CH_3$	F	C1	Et	CH <sub>3</sub>	F	C1
i-Pr	$CH_3$	$\mathbf{F}$	C1	i-Pr	CH <sub>3</sub>	F	C1	<i>i-</i> Pr	CH <sub>3</sub>	F	C1
t-Bu	CH <sub>3</sub>	$\mathbf{F}$	C1	t-Bu	$CH_3$	F	Cl	t-Bu	CH <sub>3</sub>	F	C1
Me	$CH_3$	F	Br	Ме	$CH_3$	F	Br	Me	$CH_3$	F	Br
Et	CH <sub>3</sub>	$\mathbf{F}$	Br	Et	$CH_3$	F	Br	Et	CH <sub>3</sub>	F	Br
<i>i</i> -Pr	$CH_3$	F	Br	i-Pr	$CH_3$	F	Br	i-Pr	CH <sub>3</sub>	F	Br
t-Bu	$CH_3$	F	Br	t-Bu	$CH_3$	F	Br	t-Bu	CH <sub>3</sub>	F	Br
Me	$CH_3$	C1	Cl	Me	$CH_3$	C1	C1	Me	CH <sub>3</sub>	C1	C1
Et	CH <sub>3</sub>	C1	C1	Et	CH <sub>3</sub>	C1	Cl	Et	CH <sub>3</sub>	Cl	C1
i-Pr	CH <sub>3</sub>	Cl	Cl	<i>i-</i> Pr	$CH_3$	C1	C1	i-Pr	$CH_3$	Cl	C1
t-Bu	CH <sub>3</sub>	Cl	Cl	t-Bu	CH <sub>3</sub>	C1	C1	t-Bu	CH <sub>3</sub>	Cl	Cl
Me	$CH_3$	Cl	Br	Me	$CH_3$	C1	Br	Me	CH <sub>3</sub>	Cl	Br
Et	$CH_3$	Cl	Br	Et	$CH_3$	C1	Br	Et	$CH_3$	Cl	Br
i-Pr	$CH_3$	C1	Br	i-Pr	CH <sub>3</sub>	C1	Br	<i>i-</i> Pr	$CH_3$	C1	Br
t-Bu	CH <sub>3</sub>	C1	Br	t-Bu	CH <sub>3</sub>	C1	Br	t-Bu	CH <sub>3</sub>	C1	Br
Me	$CH_3$	Br	C1	Me	CH <sub>3</sub>	Br	C1	Me	CH <sub>3</sub>	Br	Cl
Et	CH <sub>3</sub>	Br	C1	Et	CH <sub>3</sub>	Br	C1	Et	CH <sub>3</sub>	Br	Cl
i-Pr	$CH_3$	Br	C1	i-Pr	CH <sub>3</sub>	Br	C1	i-Pr	CH <sub>3</sub>	Br	Cl

	R <sup>9</sup> is	CHF <sub>2</sub>		R <sup>9</sup> is CH <sub>2</sub> CF <sub>3</sub>					R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
$\mathbb{R}^3$	<u>R<sup>4a</sup></u>	$\overline{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	$\mathbb{R}^{4a}$	$\frac{1}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$=$ $R^{4b}$	<u>R</u> 6	
t-Bu	CH <sub>3</sub>	Br	C1	<i>t</i> -Bu	CH <sub>3</sub>	Br	Cl	<i>t-</i> Bu	CH <sub>3</sub>	Br	C1	
Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	Br	Br	
Et	CH <sub>3</sub>	$\mathbf{Br}$	Br	Et	CH <sub>3</sub>	Br	Br	Et	CH <sub>3</sub>	Br	Br	
i-Pr	CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	Br	Br	
t-Bu	$CH_3$	Br	Br	<i>t-</i> Bu	$CH_3$	Br	Br	<i>t-</i> Bu	CH <sub>3</sub>	Br	Br	
Me	$CH_3$	I	C1	Me	CH <sub>3</sub>	I	C1	Me	$CH_3$	I	Cl	
Et	$CH_3$	I	Cl	Et	CH <sub>3</sub>	I	C1	Et	$CH_3$	I	C1	
i-Pr	CH <sub>3</sub>	I	Cl	i-Pr	CH <sub>3</sub>	I	C1	<i>i-</i> Pr	CH <sub>3</sub>	I	C1	
t-Bu	CH <sub>3</sub>	I	Cl	t-Bu	$CH_3$	I	C1	t-Bu	$CH_3$	I	Cl	
Me	CH <sub>3</sub>	I	Br	Me	CH <sub>3</sub>	I	Br	Me	CH <sub>3</sub>	I	Br	
Et	CH <sub>3</sub>	I	Br	Et	CH <sub>3</sub>	I	Br	Et	CH <sub>3</sub>	I	Br	
<i>i-</i> Pr	CH <sub>3</sub>	I	Br	<i>i-</i> Pr	CH <sub>3</sub>	I	Br	<i>i-</i> Pr	$CH_3$	I	Br	
t-Bu	CH <sub>3</sub>	Ι	Br	t-Bu	CH <sub>3</sub>	I	Br	t-Bu	$CH_3$	I	Br	
Me	CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	$CH_3$	CF <sub>3</sub>	C1	
Et	CH <sub>3</sub>	CF <sub>3</sub>	Cl	Et	CH <sub>3</sub>	CF <sub>3</sub>	Cl	Et	$CH_3$	CF <sub>3</sub>	C1	
<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Cl	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	C1	<i>i-</i> Pr	$CH_3$	CF <sub>3</sub>	C1	
t-Bu	$CH_3$	CF <sub>3</sub>	Cl	t-Bu	$CH_3$	CF <sub>3</sub>	C1	t-Bu	$CH_3$	CF <sub>3</sub>	C1	
Me	$CH_3$	CF <sub>3</sub>	Br	Me	$CH_3$	CF <sub>3</sub>	Br	Me	$CH_3$	CF <sub>3</sub>	Br	
Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	$CH_3$	CF <sub>3</sub>	Br	Et	$CH_3$	CF <sub>3</sub>	Br	
<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	
n-Pr	CH <sub>3</sub>	C1	Cl	Me	Cl	F	Br	Me	Cl	H	Br	
n-Bu	CH <sub>3</sub>	Cl	Cl	Et	Cl	F	Br	Et	C1	Н	Br	
s-Bu	CH <sub>3</sub>	C1	C1	<i>i-</i> Pr	C1	F	Br	<i>i-</i> Pr	Cl	Н	Br	
<i>i-</i> Bu	CH <sub>3</sub>	C1	C1	t-Bu	Cl	F	Br	t-Bu	C1	H	Br	
Me	C1	F	C1	Me	Cl	F	C1	Me	C1	Н	C1	
Et	C1	F	C1	Et	C1	F	C1	Et	C1	H	C1	
<i>i</i> -Pr	C1	F	C1	i-Pr	Cl	F	C1	i-Pr	C1	H	C1	
t-Bu	Cl	F	C1	t-Bu	C1	F	C1	<i>i-</i> Pr	Cl	H	C1	
Me	Cl	F	Br	Me	C1	C1	Br	Me	C1	I	Br	
Et	Cl	F	Br	Et	C1	C1	Br	Et	C1	I	Br	
<i>i-</i> Pr	C1	F	Br	<i>i</i> -∙Pr	C1	C1	Br	<i>i-</i> Pr	Cl	I	Br	
t-Bu	C1	F	Br	t-Bu	Cl	C1	Br	t-Bu	Cl	I	Br	
Me	C1	C1	C1	Me	Cl	C1	C1	Me	C1	Ι	Cl	
Et	C1	C1	Cl	Et	Cl	C1	C1	Et	C1	I	Cl	
<i>i-</i> Pr	Cl	C1	Cl	<i>i-</i> Pr	Cl	C1	C1	<i>i-</i> Pr	Cl	Ι	C1	

	$\mathbb{R}^9$ is	CHF <sub>2</sub>	$ \begin{array}{c c} R^9 \text{ is CI} \\ \hline R^6 & R^3 & R^{4a} \end{array} $					R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
<u>R</u> 3	<u>R<sup>4a</sup></u>	$\overline{\mathrm{R}^{4\mathrm{b}}}$	<u>R</u> 6	<u>R</u> 3		$\frac{1}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	$R^{4a}$		<u>R</u> 6
t-Bu	C1	C1	C1	t-Bu	C1	Cl	C1	<i>t-</i> Bu	C1	I	C1
Me	Cl	H	Br	Me	Cl	H	Br	Me	C1	F	Br
Et	C1	H	Br	Et	Cl	H	Br	Et	C1	F	Br
i-Pr	C1	H	Br	<i>i-</i> Pr	Cl	H	Br	<i>i-</i> Pr	C1	F	Br
t-Bu	Cl	$\mathbf{H}$	Br	<i>t</i> -Bu	C1	$\mathbf{H}$	Br	t-Bu	Cl	F	Br
Me	Cl	H	Cl	Ме	Cl	н	Cl	Me	C1	F	C1
Et	Cl	$\mathbf{H}$	C1	Et	Cl	$\mathbf{H}$	C1	Et	C1	$\mathbf{F}$	C1
i-Pr	Cl	$\mathbf{H}$	C1	i-Pr	Cl	$\mathbf{H}$	C1	<i>i-</i> Pr	C1	$\mathbf{F}$	C1
t-Bu	C1	$\mathbf{H}$	C1	t-Bu	Cl	$\mathbf{H}$	C1	t-Bu	C1	F	C1
Me	C1	Br	Br	Ме	Cl	Br	Br	Me	C1	CF <sub>3</sub>	Br
Et	C1	Br	Br	Et	C1	Br	Br	Et	C1	CF <sub>3</sub>	Br
<i>i</i> -Pr	C1	Br	Br	<i>i-</i> Pr	Cl	Br	Br	<i>i-</i> Pr	Cl	CF <sub>3</sub>	Br
t-Bu	C1	Br	Br	t-Bu	Cl	Br	Br	t-Bu	Cl	CF <sub>3</sub>	Br
Me	C1	Br	C1	Me	C1	I	C1	Me	Cl	CF <sub>3</sub>	Cl
Et	C1	Br	C1	Et	Cl	I	C1	Et	Cl	CF <sub>3</sub>	C1
<i>i</i> -Pr	C1	Br	C1	i-Pr	C1	I	Cl	<i>i-</i> Pr	C1	CF <sub>3</sub>	C1
t-Bu	C1	Br	Cl	t-Bu	C1	Ι	Cl	t-Bu	Cl	CF <sub>3</sub>	Cl
Me	C1	I	Br	Ме	Cl	1	Br	Me	Br	F	Cl
Et	C1	I	Br	Et	Cl	$\mathbf{I}$	Br	Et	Br	F	Cl
i-Pr	C1	I	Br	<i>i-</i> Pr	C1	I	Br	i-Pr	Br	F	C1
t-Bu	C1	I	Br	t-Bu	C1	I	Br	t-Bu	Br	F	Cl
Me	C1	I	Cl	Me	C1	CF <sub>3</sub>	C1	Me	Br	F	Br
Et	C1	I	C1	Et	C1	CF <sub>3</sub>	C1	Et	Br	F	Br
i-Pr	C1	I	C1	<i>i-</i> Pr	Cl	CF <sub>3</sub>	Cl	i-Pr	Br	F	Br
t-Bu	Cl	I	Cl	t-Bu	Cl	CF <sub>3</sub>	Cl	t-Bu	Br	F	Br
Me	Cl	CF <sub>3</sub>	Br	Me	Cl	CF <sub>3</sub>	Br	Me	Br	C1	C1
Et	Cl	CF <sub>3</sub>	Br	Et	C1	CF <sub>3</sub>	Br	Et	Br	Cl	C1
<i>i-</i> Pr	C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	C1	CF <sub>3</sub>	Br	<i>i</i> -Pr	Br	C1	C1
t-Bu	Cl	CF <sub>3</sub>	Br	t-Bu	Cl	CF <sub>3</sub>	Br	<i>t</i> -Bu	Br	Cl	C1
Me	C1	CF <sub>3</sub>	C1	n-Pr	C1	Cl	Cl	Me	Br	Cl	Br
Et	C1	CF <sub>3</sub>	Cl	n-Bu	Cl	Cl	C1	Et	Br	Cl	Br
<i>i-</i> Pr	C1	CF <sub>3</sub>	C1	s-Bu	CI	C1	C1	<i>i</i> -Pr	Br	Cl	Br
t-Bu	C1	CF <sub>3</sub>	Cl	<i>i-</i> Bu	Cl	C1	C1	t-Bu	Br	C1	Br
Me	Br	F	Cl	Me	Br	F	Cl	Me	Br	Br	Cl
Et	Br	F	Cl	Et	Br	F	C1	Et	Br	Br	C1
i-Pr	$\mathbf{Br}$	F	C1	<i>i-</i> Pr	Br	F	C1	<i>i</i> -Pr	Br	Br	C1

	$\mathbb{R}^9$ is	CHF <sub>2</sub>		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
$\mathbb{R}^3$	<u>R<sup>4a</sup></u>	$\overline{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	R4b	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6
t-Bu	Br	F	C1	<i>t-</i> Bu	Br	F	C1	t-Bu	Br	Br	C1
Me	Br	F	Br	Me	Br	F	Br	Me	Br	Br	Br
Et	Br	F	Br	Et	Br	F	Br	Et	Br	Br	Br
i-Pr	Br	F	Br	i-Pr	Br	F	Br	i-Pr	Br	Br	Br
t-Bu	Br	F	Br	<i>t-</i> Bu	Br	F	Br	t-Bu	Br	Br	Br
Me	Br	C1	C1	Me	Br	C1	C1	Me	Br	I	C1
Et	Br	C1	C1	Et	Br	Cl	C1	Et	Br	I	C1
<i>i-</i> Pr	Br	C1	Cl	<i>i-</i> Pr	Br	Cl	C1	<i>i-</i> Pr	Br	I	C1
t-Bu	Br	C1	C1	t-Bu	Br	C1	C1	<i>t-</i> Bu	Br	I	C1
Me	Br	C1	Br	Me	Br	C1	Br	Me	Br	I	Br
Et	Br	Cl	Br	Et	Br	C1	Br	Et	Br	I	Br
<i>i-</i> Pr	Br	Cl	Br	i-Pr	Br	C1	Br	<i>i-</i> Pr	Br	1	Br
t-Bu	Br	Cl	Br	t-Bu	Br	C1	Br	t-Bu	Br	I	Br
Me	Br	Br	C1	Me	Br	Br	C1	Me	Br	CF <sub>3</sub>	C1
Et	Br	Br	Cl	Et	Br	Br	C1	Et	Br	CF <sub>3</sub>	C1
<i>i</i> -Pr	Br	Br	Cl	i-Pr	Br	Br	C1	<i>i</i> -Pr	Br	CF <sub>3</sub>	Cl
t-Bu	Br	Br	Cl	t-Bu	Br	Br	C1	t-Bu	Br	CF <sub>3</sub>	C1
Me	Br	Br	Br	Me	Br	Br	Br	Me	Br	CF <sub>3</sub>	Br
Et	Br	Br	Br	Et	Br	Br	Br	Et	Br	CF <sub>3</sub>	Br
<i>i-</i> Pr	Br	Br	Br	<i>i-</i> Pr	Br	Br	Br	<i>i-</i> Pr	Br	CF <sub>3</sub>	Br
t-Bu	Br	Br	Br	t-Bu	Br	Br	Br	t-Bu	Br	CF <sub>3</sub>	Br
Me	Br	I	C1	Me	Br	I	C1	Me	C1	Cl	Br
Et	Br	I	Cl	Et	Br	I	Cl	Et	Cl	Cl	Br
<i>i</i> -Pr	Br	Ι	Cl	i-Pr	Br	I	Cl	<i>i-</i> Pr	C1	Cl	Br
t-Bu	Br	I	Cl	t-Bu	Br	I	Cl	<i>t-</i> Bu	Cl	Cl	Br
Me	Br	Ι	Br	Me	Br	Ι	Br	Me	Cl	Cl	C1
Et	Br	I	Br	Et	Br	I	Br	Et	Cl	Cl	C1
<i>i-</i> Pr	Br	I	Br	<i>i-</i> Pr	Br	I	Br	<i>i-</i> Pr	Cl	Cl	CI
t-Bu	Br	Ι	Br	t-Bu	Br	I	Br	<i>t-</i> Bu	C1	Cl	C1

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Table 24

$$R^{4b}$$
 $R^{4a}$ 
 $NH$ 
 $R^{3}$ 

	$\mathbb{R}^9$ is	CHF <sub>2</sub>		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
$\underline{\mathbb{R}^3}$	$R^{4a}$	$R^{4b}$	<u>R</u> 6	<u>R<sup>3</sup></u>	<u>R<sup>4a</sup></u>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	R <sup>4b</sup>	<u>R</u> 6
Me	$CH_3$	H	C1	Me	CH <sub>3</sub>	$\mathbf{H}$	C1	Me	$CH_3$	Br	C1
Et	CH <sub>3</sub>	H	C1	Et	CH <sub>3</sub>	H	C1	Et	CH <sub>3</sub>	Br	C1
i-Pr	CH <sub>3</sub>	H	Cl	i-Pr	CH <sub>3</sub>	H	Cl	<i>i-</i> ∙Pr	CH <sub>3</sub>	Br	Cl
t-Bu	CH <sub>3</sub>	H	C1	t-Bu	$CH_3$	H	C1	t-Bu	CH <sub>3</sub>	Br	C1
Me	CH <sub>3</sub>	H	Br	Me	CH <sub>3</sub>	H	Br	Me	$CH_3$	Br	Br
Et	CH <sub>3</sub>	H	Br	Et	CH <sub>3</sub>	H	Br	Et	CH <sub>3</sub>	Br	Br
i-Pr	CH <sub>3</sub>	H	Br	i-Pr	CH <sub>3</sub>	$\mathbf{H}$	Br	<i>i-</i> Pr	CH <sub>3</sub>	Br	Br
t-Bu	CH <sub>3</sub>	H	Br	t-Bu	CH <sub>3</sub>	H	Br	t-Bu	$CH_3$	Br	Br
Me	CH <sub>3</sub>	F	C1	Me	CH <sub>3</sub>	Br	Cl	Me	CH <sub>3</sub>	I	Cl
Et	CH <sub>3</sub>	F	C1	Et	$CH_3$	Br	C1	Et	$CH_3$	I	Cl
i-Pr	CH <sub>3</sub>	F	C1	i-Pr	$CH_3$	Br	C1	<i>i-</i> Pr	CH <sub>3</sub>	I	C1
t-Bu	CH <sub>3</sub>	F	C1	t-Bu	$CH_3$	Br	C1	t-Bu	$CH_3$	I	Cl
Me	$CH_3$	F	Br	Me	CH <sub>3</sub>	Br	Br	Me	$CH_3$	I	Br
Et	CH <sub>3</sub>	F	Br	Et	$CH_3$	Br	Br	Et	CH <sub>3</sub>	I	Br
<i>i-</i> Pr	CH <sub>3</sub>	F	Br	<i>i-</i> Pr	CH <sub>3</sub>	Br	Br	i-Pr	CH <sub>3</sub>	I	Br
t-Bu	CH <sub>3</sub>	F	Br	t-Bu	CH <sub>3</sub>	Br	Br	t-Bu	CH <sub>3</sub>	I	Br
Me	$CH_3$	C1	C1	Me	CH <sub>3</sub>	F	C1	Me	CH <sub>3</sub>	CF <sub>3</sub>	C1
Et	$CH_3$	C1	C1	Et	$CH_3$	F	C1	Et	CH <sub>3</sub>	CF <sub>3</sub>	C1
<i>i-</i> Pr	$CH_3$	C1	Cl	i-Pr	$CH_3$	F	Cl	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	C1
t-Bu	$CH_3$	C1	C1	t-Bu	CH <sub>3</sub>	F	C1	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Cl
Me	$CH_3$	<b>C</b> 1	Br	Me	$CH_3$	F	Br	Me	CH <sub>3</sub>	CF <sub>3</sub>	Br
Et	CH <sub>3</sub>	C1	Br	Et	CH <sub>3</sub>	F	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br
i-Pr	CH <sub>3</sub>	Cl	Br	i-Pr	CH <sub>3</sub>	F	Br	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br
t-Bu	CH <sub>3</sub>	C1	Br	t-Bu	CH <sub>3</sub>	F	Br	<i>t</i> -Bu	$CH_3$	CF <sub>3</sub>	Br
Me	CH <sub>3</sub>	Br	Cl	Me	CH <sub>3</sub>	Cl	C1	Me	CH <sub>3</sub>	C1	C1
Et	$CH_3$	Br	Cl	Et	CH <sub>3</sub>	Cl	Cl	Et	CH <sub>3</sub>	C1	C1

	R <sup>9</sup> is	CHF <sub>2</sub>			R <sup>9</sup> is CH <sub>2</sub> F <sub>3</sub>		R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>				
<u>R</u> 3	<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{\overline{R}^{4b}}{R}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>		<u>R</u> 6
i-Pr	CH <sub>3</sub>	Br	Cl	<i>i-</i> Pr	CH <sub>3</sub>	Cl	C1	<i>i-</i> Pr	CH <sub>3</sub>	Cl	C1
t-Bu	CH <sub>3</sub>	Br	C1	t-Bu	CH <sub>3</sub>	Cl	C1	<i>t</i> -Bu	CH <sub>3</sub>	Cl	Cl
Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	Cl	Br	Me	CH <sub>3</sub>	Cl	Br
Et	$CH_3$	Br	Br	Et	CH <sub>3</sub>	C1	Br	Et	CH <sub>3</sub>	Cl	Br
i-Pr	$CH_3$	Br	Br	<i>i</i> -Pr	$CH_3$	C1	Br	<i>i-</i> Pr	CH <sub>3</sub>	C1	Br
t-Bu	$CH_3$	Br	Br	<i>t-</i> Bu	CH <sub>3</sub>	C1	Br	<i>t</i> -Bu	CH <sub>3</sub>	Cl	Br
Me	$CH_3$	I	C1	Me	CH <sub>3</sub>	I	C1	Me	CH <sub>3</sub>	H	C1
Et	$CH_3$	I	Cl	Et	CH <sub>3</sub>	I	C1	Et	CH <sub>3</sub>	H	C1
i-Pr	$CH_3$	I	C1	i-Pr	CH <sub>3</sub>	I	C1	i-Pr	CH <sub>3</sub>	$\mathbf{H}$	Cl
t-Bu	$CH_3$	I	C1	t-Bu	CH <sub>3</sub>	I	C1	t-Bu	CH <sub>3</sub>	$\mathbf{H}$	C1
Me	CH <sub>3</sub>	Ι	Br	Me	$CH_3$	Ι	Br	Me	CH <sub>3</sub>	$\mathbf{H}$	Br
Et	$CH_3$	I	Br	Et	CH <sub>3</sub>	I	Br	Et	CH <sub>3</sub>	H	Br
i-Pr	$CH_3$	I	Br	i-Pr	CH <sub>3</sub>	I	Br	i-Pr	CH <sub>3</sub>	H	Br
t-Bu	$CH_3$	I	Br	t-Bu	$CH_3$	I	Br	<i>t-</i> Bu	CH <sub>3</sub>	$\mathbf{H}$	Br
Me	CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	$CH_3$	CF <sub>3</sub>	C1	Me	CH <sub>3</sub>	F	C1
Et	CH <sub>3</sub>	CF <sub>3</sub>	Cl	Et	CH <sub>3</sub>	CF <sub>3</sub>	Cl	Et	CH <sub>3</sub>	F	Cl
i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	C1	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Cl	<i>i-</i> Pr	CH <sub>3</sub>	F	Cl
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Cl	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	C1	t-Bu	CH <sub>3</sub>	F	Cl
Me	CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	CH <sub>3</sub>	F	Br
Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	CH <sub>3</sub>	F	Br
i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	i-Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	CH <sub>3</sub>	F	Br
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	F	Br
n-Pr	CH <sub>3</sub>	C1	Cl	Me	C1	H	Br	Me	C1	Cl	Br
n-Bu	CH <sub>3</sub>	C1	C1	Et	C1	H	Br	Et	C1	C1	Br
s-Bu	CH <sub>3</sub>	C1	C1	i-Pr	C1	H	Br	<i>i</i> -Pr	C1	C1	Br
<i>i-</i> Bu	CH <sub>3</sub>	C1	C1	t-Bu	C1	H	Br	t-Bu	CI	C1	Br
Me	Cl	I	Br	Me	Cl	H	Cl	Me	Cl	Cl	CI
Et	C1	Ι	Br	Et	C1	H	C1	Et	C1	Cl	C1
i-Pr	C1	Ι	Br	<i>i-</i> Pr	C1	H	C1	<i>i-</i> Pr	Cl	Cl	C1
t-Bu	Cl	Ι	Br	<i>t</i> -Bu	C1	H	C1	t-Bu	Cl	Cl	Cl
Me	C1	I	C1	Me	C1	C1	Br	Me	Cl	I	Br
Et	C1	I	C1	Et	C1	Cl	Br	Et	Cl	I	Br
<i>i-</i> Pr	C1	I	C1	<i>i-</i> Pr	C1	C1	Br	<i>i-</i> Pr	Cl	Ι	Br
t-Bu	C1	Ι	Cl	t-Bu	C1	C1	Br	t-Bu	C1	Ι	Br
Me	C1	H	Br	Me	Cl	Cl	C1	Me	Cl	Ι	Cl
Et	Cl	H	Br	Et	Cl	C1	Cl	Et	C1	Ι	Cl

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	R <sup>9</sup> is	CHF <sub>2</sub>		R <sup>9</sup> is CH <sub>2</sub> F <sub>3</sub>					R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	<u>~2~3</u> <u>R<sup>4b</sup></u>	<u>R</u> 6	<u>R<sup>3</sup></u>	R <sup>4a</sup>	<u>R<sup>4b</sup></u>	<u>R</u> 6	
<i>i-</i> Pr		<u>—</u>	Br	<i>i</i> -Pr	Cl	Cl	C1	<i>i-</i> Pr	Cl	<u> </u>	Cl	
<i>t-</i> Bu	Cl	H	Br	t-Bu	C1	Cl	Cl	<i>t</i> -Bu	Cl	I	C1	
Me	C1	$\mathbf{H}$	C1	Me	C1	F	Br	Me	C1	F	Br	
Et	Cl	Н	C1	Et	C1	F	Br	Et	C1	F	Br	
<i>i-</i> Pr	C1	H	C1	<i>i-</i> Pr	C1	F	Br	<i>i-</i> Pr	Cl	F	Br	
<i>t</i> -Bu	C1	$\mathbf{H}$	Cl	t-Bu	Cl	F	Br	<i>t-</i> Bu	Cl	F	Br	
Me	Cl	CF <sub>3</sub>	Br	Me	Cl	F	C1	Me	C1	F	C1	
Et	Cl	CF <sub>3</sub>	Br	Et	Cl	F	C1	Et	Cl	F	C1	
<i>i-</i> Pr	C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	C1	F	C1	<i>i-</i> Pr	C1	F	C1	
t-Bu	<b>C1</b> -	$CF_3$	Br	t-Bu	C1	F	C1	<i>t-</i> Bu	Cl	F	C1	
Me	Cl	CF <sub>3</sub>	Cl	Me	C1	Br	Br	Me	Cl	Н	Br	
Et	Cl	CF <sub>3</sub>	Cl	Et	Cl	Br	Br	Et	Cl	Н	Br	
<i>i-</i> Pr	C1	CF <sub>3</sub>	C1	<i>i-</i> Pr	Cl	Br	Br	i-Pr	Cl	H	Br	
t-Bu	Cl	CF <sub>3</sub>	C1	t-Bu	C1	Br	Br	<i>t</i> -Bu	C1	H	Br	
Me	<b>C</b> 1	Br	Br	Me	C1	I	C1	Me	C1	H	C1	
Et	Cl	Br	Br	Et	Cl	I	C1	Et	Cl	H	C1	
<i>i-</i> Pr	Cl	Br	Br	<i>i-</i> Pr	Cl	I	Cl	<i>i-</i> Pr	Cl	H	C1	
t-Bu	C1	Br	Br	t-Bu	C1	Ι	Cl	i-Pr	Cl	Н	C1	
Me	C1	Br	Cl	Me	C1	I	Br	Me	C1	CF <sub>3</sub>	Br	
Et	Cl	Br	Cl	Et	C1	I	Br	Et	Cl	CF <sub>3</sub>	Br	
<i>i-</i> Pr	Cl	Br	C1	i-Pr	C1	I	Br	<i>i-</i> Pr	C1	CF <sub>3</sub>	Br	
t-Bu	Cl	Br	Cl	t-Bu	C1	I	Br	t-Bu	C1	CF <sub>3</sub>	Br	
Me	Cl	F	Br	Me	C1	CF <sub>3</sub>	C1	Me	C1	CF <sub>3</sub>	Cl	
Et	Cl	F	Br	Et	C1	CF <sub>3</sub>	C1	Et	Cl	CF <sub>3</sub>	C1	
<i>i-</i> Pr	Cl	F	Br	i-Pr	Cl	CF <sub>3</sub>	Cl	i-Pr	Cl	CF <sub>3</sub>	Cl	
t-Bu	Cl	F	Br	t-Bu	Cl	CF <sub>3</sub>	Cl	<i>t-</i> Bu	C1	CF <sub>3</sub>	C1	
Me	Cl	C1	Cl	Me	Cl	CF <sub>3</sub>	Br	Me	Br	F	CI	
Et	Cl	Cl	Cl	Et	Cl	CF <sub>3</sub>	Br	Et	Br	F	Cl	
<i>i-</i> Pr	Cl	C1	C1	<i>i-</i> Pr	Cl	CF <sub>3</sub>	Br	<i>i-</i> Pr	Br	F	Cl	
t-Bu	C1	C1	C1	t-Bu	C1	CF <sub>3</sub>	Br	t-Bu	Br	F	Cl	
Me	Cl	F	Cl	n-Pr	CI	C1	C1	Me	Br	F	Br	
Et	Cl	F	Cl	n-Bu	Cl	C1	C1	Et	Br	F	Br	
i-Pr	Cl	F	Cl	s-Bu	CI	CI	Cl	<i>i-</i> Pr	Br	F	Br	
t-Bu	CI	F -	C1	<i>i-</i> Bu	CI	Cl	Cl	t-Bu	Br	F	Br	
Me	Br	Br	Cl	Me	Br	F	C1	Me	Br	C1	CI	
Et	Br	$\mathbf{Br}$	Cl	Et	Br	F	C1	Et	$\mathbf{Br}$	Cl	Cl	

	R <sup>9</sup> is	CHF <sub>2</sub>		$\frac{R^9 \text{ is } CH_2F_3}{R^3 R^3 R^3 R^3 R^3 R^3 R^3 R^3 R^3 R^3 $				R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
$\underline{\mathbb{R}^3}$	<u>R<sup>4a</sup></u>	$\frac{1}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{2}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{1}{R^{4b}}$	<u>R</u> 6
<i>i-</i> Pr	Br	Br	C1	<i>i-</i> Pr	Br	F	C1	<i>i-</i> Pr	Br	C1	C1
t-Bu	Br	Br	C1	t-Bu	Br	F	Cl	<i>t-</i> Bu	Br	CI	Cl
Me	Br	Br	Br	Ме	Br	F	Br	Me	Br	Cl	Br
Et	Br	Br	Br	Et	Br	F	Br	Et	Br	C1	Br
<i>i-</i> Pr	Br	Br	Br	i-Pr	Br	F	Br	<i>i-</i> Pr	Br	C1	Br
t-Bu	Br	Br	Br	t-Bu	Br	F	Br	<i>t-</i> Bu	Br	C1	Br
Me	Br	I	C1	Me	Br	C1	C1	Me	Br	Br	C1
Et	Br	I	C1	Et	Br	Cl	C1	Et	Br	Br	Cl
<i>i</i> -Pr	Br	I	C1	i-Pr	Br	C1	C1	<i>i-</i> Pr	Br	Br	C1
t-Bu	Br	Ι	C1	<i>t</i> -Bu	Br	C1	C1	t-Bu	Br	Br	C1
Me	Br	I	Br	Me	Br	C1	Br	Me	Br	Br	Br
Et	Br	I	Br	Et	Br	Cl	Br	Et	Br	Br	Br
<i>i-</i> Pr	Br	I	Br	<i>i-</i> Pr	Br	Cl	Br	<i>i-</i> Pr	Br	Br	Br
t-Bu	Br	I	Br	<i>t</i> -Bu	Br	C1	$\mathbf{Br}$	t-Bu	Br	Br	Br
Me	Br	F	C1	Me	Br	I	C1	Me	Br	CF <sub>3</sub>	C1
Et	Br	F	C1	Et	Br	I	C1	Et	Br	CF <sub>3</sub>	Cl
<i>i-</i> Pr	Br	F	C1	i-Pr	Br	I	C1	<i>i-</i> Pr	Br	CF <sub>3</sub>	C1
t-Bu	Br	F	C1	<i>t-</i> Bu	Br	I	Cl	t-Bu	Br	CF <sub>3</sub>	C1
Me	Br	F	Br	Me	Br	I	Br	Me	Br	CF <sub>3</sub>	Br
Et	Br	F	Br	Et	Br	I	Br	Et	Br	CF <sub>3</sub>	Br
i-Pr	Br	F	Br	i-Pr	Br	I	Br	<i>i-</i> Pr	Br	CF <sub>3</sub>	Br
t-Bu	Br	F	Br	t-Bu	Br	I	Br	t-Bu	Br	CF <sub>3</sub>	Br
Me	Br	Cl	C1	Me	Br	Br	C1	Me	Br	Ι	Cl
Et	Br	Cl	C1	Et	Br	Br	C1	Et	Br	Ι	Cl
i-Pr	Br	Cl	C1	i-Pr	Br	Br	C1	<i>i-</i> Pr	Br	I	Cl
t-Bu	Br	Cl	Cl	t-Bu	Br	Br	C1	t-Bu	Br	Ι	Cl
Me	Br	C1	Br	Me	Br	Br	Br	Me	Br	I	Br
Et	Br	C1	Br	Et	Br	Br	Br	Et	Br	I	Br
i-Pr	Br	C1	Br	i-Pr	Br	Br	Br	<i>i-</i> Pr	Br	I	Br
t-Bu	Br	Cl	Br	t-Bu	Br	Br	Br	t-Bu	Br	I	Br

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Table 25

	$R^9$ is	CHF <sub>2</sub>		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
$\underline{\mathbb{R}^3}$	<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	$\frac{\overline{R^{4b}}}{R}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 6
Me	CH <sub>3</sub>	H	C1	Me	CH <sub>3</sub>	H	C1	Me	$CH_3$	Br	Cl
Et	$CH_3$	$\mathbf{H}$	C1	Et	CH <sub>3</sub>	H	C1	Et	$CH_3$	Br	C1
i-Pr	CH <sub>3</sub>	$\mathbf{H}$	C1	<i>i-</i> Pr	$CH_3$	H	C1	<i>i-</i> Pr	$CH_3$	Br	C1
t-Bu	CH <sub>3</sub>	$\mathbf{H}$	Cl	<i>t-</i> Bu	CH <sub>3</sub>	H	Cl	t-Bu	$CH_3$	Br	C1
Me	CH <sub>3</sub>	$\mathbf{H}$	Br	Ме	CH <sub>3</sub>	H	Br	Me	CH <sub>3</sub>	Br	Br
Et	$CH_3$	$\mathbf{H}$	Br	Et	$CH_3$	H	Br	Et	CH <sub>3</sub>	Br	Br
i-Pr	$CH_3$	H	Br	<i>i-</i> Pr	$CH_3$	H	Br	<i>i-</i> Pr	$CH_3$	Br	Br
t-Bu	CH <sub>3</sub>	H	Br	t-Bu	$CH_3$	H	Br	<i>t</i> -Bu	$CH_3$	Br	Br
Me	$CH_3$	F	C1	Me	$CH_3$	Br	C1	Me	$CH_3$	I	C1
Et	CH <sub>3</sub>	F	C1	Et	$CH_3$	$\mathbf{Br}$	Cl	Et	$CH_3$	I	C1
i-Pr	CH <sub>3</sub>	F	C1	<i>i-</i> Pr	CH <sub>3</sub>	Br	C1	<i>i-</i> Pr	CH <sub>3</sub>	Ι	C1
t-Bu	CH <sub>3</sub>	F	C1	<i>t-</i> Bu	$CH_3$	Br	C1	t-Bu	CH <sub>3</sub>	Ι	C1
Me	CH <sub>3</sub>	F	Br	Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	I	Br
Et	CH <sub>3</sub>	F	Br	Et	$CH_3$	Br	Br	Et	$CH_3$	I	Br
i-Pr	CH <sub>3</sub>	$\mathbf{F}$	Br	<i>i-</i> Pr	$CH_3$	Br	Br	<i>i-</i> Pr	$CH_3$	I	Br
t-Bu	CH <sub>3</sub>	F	Br	t-Bu	CH <sub>3</sub>	Br	Br	t-Bu	CH <sub>3</sub>	1	Br
Me	CH <sub>3</sub>	C1	C1	Me	CH <sub>3</sub>	F	C1	Me	CH <sub>3</sub>	CF <sub>3</sub>	Cl
Et	CH <sub>3</sub>	C1	C1	Et	CH <sub>3</sub>	F	C1	Et	CH <sub>3</sub>	CF <sub>3</sub>	Cl
<i>i-</i> Pr	CH <sub>3</sub>	C1	C1	<i>i-</i> Pr	CH <sub>3</sub>	F	C1	<i>i-</i> Pr	$CH_3$	CF <sub>3</sub>	Cl
t-Bu	CH <sub>3</sub>	C1	Cl	<i>t-</i> Bu	CH <sub>3</sub>	F	Cl	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	C1
Me	CH <sub>3</sub>	C1	Br	Me	$CH_3$	F	Br	Me	CH <sub>3</sub>	CF <sub>3</sub>	Br
Et	CH <sub>3</sub>	C1	Br	Et	CH <sub>3</sub>	F	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br
<i>i-</i> Pr	CH <sub>3</sub>	C1	Br	<i>i-</i> Pr	CH <sub>3</sub>	F	Br	<i>i-</i> Pr	$CH_3$	CF <sub>3</sub>	Br
t-Bu	CH <sub>3</sub>	C1	Br	<i>t-</i> Bu	CH <sub>3</sub>	F	Br	<i>t-</i> Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br
Me	CH <sub>3</sub>	Br	C1	Me	CH <sub>3</sub>	C1	C1	Me	$CH_3$	Cl	C1
Et	CH <sub>3</sub>	Br	Cl	Et	CH <sub>3</sub>	C1	C1	Et	CH <sub>3</sub>	C1	C1
i-Pr	$CH_3$	Br	Cl	<i>i-</i> Pr	CH <sub>3</sub>	C1	C1	<i>i-</i> Pr	$CH_3$	C1	C1

	R <sup>9</sup> is	CHF <sub>2</sub>		$ \begin{array}{c cccc}  & R^9 \text{ is } CH_2F_3 \\ R^6 & R^4a & R^4b & R^6 \end{array} $					R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>			
<u>R</u> 3	R <sup>4a</sup>	$\overline{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	$R^{4a}$	$\frac{1}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{1}{R^{4b}}$	<u>R</u> 6	
t-Bu	CH <sub>3</sub>	Br	C1	<i>t-</i> Bu	CH <sub>3</sub>	Cl	C1	<i>t-</i> Bu	CH <sub>3</sub>	<b>C</b> 1	Cl	
Me	CH <sub>3</sub>	Br	Br	Me	CH <sub>3</sub>	C1	Br	Me	CH <sub>3</sub>	Cl	Br	
Et	CH <sub>3</sub>	Br	Br	Et	CH <sub>3</sub>	C1	Br	Et	CH <sub>3</sub>	Cl	Br	
i-Pr	$CH_3$	Br	Br	<i>i-</i> Pr	CH <sub>3</sub>	C1	Br	<i>i-</i> Pr	CH <sub>3</sub>	Cl	Br	
t-Bu	CH <sub>3</sub>	Br	Br	<i>t-</i> Bu	CH <sub>3</sub>	C1	Br	t-Bu	CH <sub>3</sub>	C1	Br	
Me	CH <sub>3</sub>	Ι	C1	Me	CH <sub>3</sub>	I	Cl	Me	CH <sub>3</sub>	$\mathbf{H}$	Cl	
Et	$CH_3$	I	Cl	Et	$CH_3$	I	Cl	Et	CH <sub>3</sub>	$\mathbf{H}$	C1	
<i>i</i> -Pr	$CH_3$	I	C1	<i>i-</i> Pr	CH <sub>3</sub>	I	Cl	i-Pr	CH <sub>3</sub>	$\mathbf{H}$	C1	
t-Bu	CH <sub>3</sub>	Ι	C1	t-Bu	CH <sub>3</sub>	I	Cl	t-Bu	CH <sub>3</sub>	$\mathbf{H}$	C1	
Me	$CH_3$	I	Br	Me	CH <sub>3</sub>	I	Br	Me	CH <sub>3</sub>	$\mathbf{H}$	Br	
Et	CH <sub>3</sub>	I	Br	Et	CH <sub>3</sub>	Ι	Br	Et	CH <sub>3</sub>	H	Br	
i-Pr	$CH_3$	I	Br	<i>i-</i> Pr	CH <sub>3</sub>	I	Br	<i>i-</i> Pr	CH <sub>3</sub>	H	Br	
t-Bu	$CH_3$	I	Br	t-Bu	$CH_3$	I	Br	t-Bu	CH <sub>3</sub>	H	Br	
Me	CH <sub>3</sub>	CF <sub>3</sub>	C1	Me	$CH_3$	CF <sub>3</sub>	Cl	Me	CH <sub>3</sub>	F	C1	
Et	CH <sub>3</sub>	CF <sub>3</sub>	C1	Et	CH <sub>3</sub>	CF <sub>3</sub>	C1	Et	CH <sub>3</sub>	F	C1	
i-Pr	$CH_3$	CF <sub>3</sub>	C1	<i>i-</i> Pr	$CH_3$	CF <sub>3</sub>	C1	i-Pr	$CH_3$	F	C1	
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	C1	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Cl	t-Bu	CH <sub>3</sub>	F	C1	
Me	CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	CH <sub>3</sub>	CF <sub>3</sub>	Br	Me	CH <sub>3</sub>	F	Br	
Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	CH <sub>3</sub>	CF <sub>3</sub>	Br	Et	CH <sub>3</sub>	F	Br	
<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	CH <sub>3</sub>	CF <sub>3</sub>	Br	<i>i-</i> Pr	CH <sub>3</sub>	F	Br	
t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	CF <sub>3</sub>	Br	t-Bu	CH <sub>3</sub>	F	Br	
n-Pr	CH <sub>3</sub>	C1	C1	Me	C1	H	Br	Me	C1	C1	Br	
n-Bu	CH <sub>3</sub>	CI	C1	Et	Cl	H	Br	Et	C1	C1	Br	
s-Bu	CH <sub>3</sub>	C1	C1	<i>i-</i> Pr	C1	H	Br	<i>i-</i> Pr	C1	Cl	Br	
<i>i-</i> Bu	CH <sub>3</sub>	C1	C1	<i>t-</i> Bu	C1	H	Br	t-Bu	C1	Cl	Br	
Me	Cl	I	Br	Me	C1	H	Cl	Me	Cl	Cl	C1	
Et	C1	I	Br	Et	C1	H	C1	Et	Cl	C1	Cl	
i-Pr	C1	I	Br	i-Pr	C1	H	C1	i-Pr	Cl	Cl	Cl	
t-Bu	C1	I	Br	t-Bu	C1	H	C1	t-Bu	Cl	C1	C1	
Me	C1	Ι	C1	Me	C1	Cl	Br	Me	C1	I	Br	
Et	C1	I	C1	Et	C1	C1	Br	Et	C1	I	Br	
<i>i-</i> Pr	C1	I	C1	<i>i-</i> Pr	Cl	C1	Br	i-Pr	C1	I	Br	
t-Bu	C1	I	C1	t-Bu	C1	C1	Br	t-Bu	C1	Ι	Br	
Me	C1	H	Br	Me	C1	C1	C1	Me	C1	I	C1	
Et	C1	H	Br	Et	C1	Cl	Cl	Et	Cl	I	C1	
<i>i-</i> Pr	Cl	H	Br	<i>i-</i> Pr	Cl	Cl	. Cl	<i>i-</i> Pr	Cl	Ι	Cl	

	R <sup>9</sup> is		$ \begin{array}{c cccc} R^9 & \text{is } CH_2F_3 \\ R^6 & R^3 & R^4a & R^4b & R^6 \end{array} $				R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>				
<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{\overline{R^{4b}}}{}$	<u>R</u> 6	<u>R<sup>3</sup></u>	$R^{4a}$	$\frac{1}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4</sup>a</u>	<u>R<sup>4b</sup></u>	<u>R</u> 6
<i>t</i> -Bu	C1	$\mathbf{H}$	Br	t-Bu	Cl	C1	C1	t-Bu	Cl	I	Cl
Me	C1	н	Cl	Me	C1	F	Br	Me	Cl	F	Br
Et	C1	$\mathbf{H}$	Cl	Et	C1	F	Br	Et	C1	F	Br
<i>i-</i> Pr	Cl	Н	C1	i-Pr	C1	F	Br	i-Pr	Cl	F	Br
t-Bu	C1	H	C1	t-Bu	Cl	F	Br	t-Bu	C1	F	Br
Me	Cl	CF <sub>3</sub>	Br	Me	C1	F	C1	Me	C1	F	C1
Et	C1	CF <sub>3</sub>	Br	Et	C1	F	C1	Et	C1	F	C1
<i>i</i> -Pr	C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	C1	F	C1	<i>i-</i> Pr	Cl	F	Cl
t-Bu	C1	CF <sub>3</sub>	Br	t-Bu	C1	F	C1	t-Bu	Cl	· <b>F</b>	Cl
Me	Cl	CF <sub>3</sub>	C1	Me	C1	Br	Br	Me	Cl	H	Br
Et	C1	CF <sub>3</sub>	Cl	Et	C1	Br	Br	Et	C1	H	Br
<i>i-</i> Pr	C1	CF <sub>3</sub>	Cl	i-Pr	C1	Br	Br	<i>i-</i> Pr	Cl	H	Br
t-Bu	C1	CF <sub>3</sub>	C1	t-Bu	Cl	Br	Br	t-Bu	C1	H	Br
Me	C1	Br	Br	Me	Cl	Ι	C1	Me	Cl	H	C1
Et	Cl	$\mathbf{Br}$	Br	Et	Cl	I	Cl	Et	Cl	H	C1
<i>i-</i> Pr	C1	Br	Br	i-Pr	C1	I	Cl	i-Pr	Cl	H	C1
t-Bu	C1	Br	Br	<i>t-</i> Bu	Cl	Ι	C1	<i>i-</i> Pr	Cl	H	C1
Me	C1	Br	C1	Me	Cl	Ι	Br	Me	C1	CF <sub>3</sub>	Br
Et	C1	Br	C1	Et	C1	Ι	Br	Et	C1	CF <sub>3</sub>	Br
<i>i-</i> Pr	C1	Br	C1	<i>i-</i> Pr	Cl	I	Br	<i>i-</i> Pr	Cl	CF <sub>3</sub>	Br
t-Bu	C1	Br	C1	t-Bu	C1	I	Br	<i>t-</i> Bu	C1	CF <sub>3</sub>	Br
Me	Cl	F	Br	Me	Cl	CF <sub>3</sub>	Cl	Me	Cl	CF <sub>3</sub>	C1
Et	Cl	F	Br	Et	Cl	CF <sub>3</sub>	C1	Et	C1	CF <sub>3</sub>	C1
i-Pr	C1	F	Br	i-Pr	C1	CF <sub>3</sub>	C1	<i>i-</i> Pr	C1	CF <sub>3</sub>	C1
t-Bu	Cl	F	Br	t-Bu	C1	CF <sub>3</sub>	C1	t-Bu	Cl	CF <sub>3</sub>	Cl
Me	C1	C1	C1	Me	C1	CF <sub>3</sub>	Br	Me	Br	F	Cl
Et	Cl	C1	C1	Et	C1	CF <sub>3</sub>	Br	Et	Br	F	Cl
<i>i-</i> Pr	C1	C1	C1	<i>i-</i> Pr	C1	CF <sub>3</sub>	Br	<i>i-</i> Pr	Br	${f F}$ .	Cl
t-Bu	Cl	Cl	C1	t-Bu	Cl	CF <sub>3</sub>	Br	t-Bu	Br	F	C1
Me	C1	F	C1	n-Pr	C1	C1	C1	Me	Br	F	Br
Et	C1	F	C1	<i>n-</i> Bu	C1	Cl	C1	Et	Br	F	Br
<i>i-</i> Pr	C1	F	Cl	s-Bu	Cl	Cl	C1	<i>i</i> -Pr	Br	F	Br
t-Bu <sup>'</sup>	C1	F	C1	i-Bu	C1	Cl	C1	t-Bu	Br	F	Br
Me	Br	Br	Cl	Me	Br	F	C1	Me	Br	C1	Cl
Et	Br	Br	Cl	Et	Br	F	C1	Et	Br	C1	C1
<i>i-</i> Pr	Br	Br	Cl	i-Pr	Br	F	Cl	<i>i-</i> Pr	Br	C1	Cl

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$\mathbb{R}^9$ is CHF <sub>2</sub>			R <sup>9</sup> is CH <sub>2</sub> F <sub>3</sub>			R <sup>9</sup> is CF <sub>2</sub> CHF <sub>2</sub>					
$\underline{\mathbb{R}^3}$	<u>R<sup>4a</sup></u>	$R^{4b}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>	$\frac{\overline{R}^{4b}}{R^{4b}}$	<u>R</u> 6	<u>R</u> 3	<u>R<sup>4a</sup></u>		<u>R</u> 6
t-Bu	Br	Br	Cl	<i>t-</i> Bu	Br	F	C1	<i>t-</i> Bu	Br	C1	C1
Me	Br	Br	Br	Me	Br	F	Br	Me	Br	Cl	Br
Et	Br	Br	Br	Et	Br	F	Br	Et	Br	Cl	Br
<i>i-</i> Pr	Br	Br	Br	<i>i-</i> Pr	Br	F	Br	<i>i-</i> Pr	Br	Cl	Br
t-Bu	Br	Br	Br	<i>t</i> -Bu	Br	F	Br	t-Bu	Br	Cl	Br
Me	Br	I	C1	Ме	Br	C1	Cl	Me	Br	Br	C1
Et	Br	I	C1	Et	Br	C1	C1	Et	Br	Br	C1
<i>i-</i> Pr	Br	I	C1	<i>i-</i> Pr	Br	C1	C1	<i>i</i> -Pr	Br	Br	C1
t-Bu	Br	I	Cl	t-Bu	Br	C1	C1	t-Bu	Br	Br	C1
Me	Br	I	Br	Ме	Br	Cl	Br	Me	Br	Br	Br
Et	Br	I	Br	Et	Br	C1	Br	Et	Br	Br	Br
i-Pr	Br	I	Br	<i>i-</i> Pr	Br	C1	Br	<i>i-</i> Pr	Br	Br	Br
t-Bu	Br	I	Br	t-Bu	Br	C1	Br	t-Bu	Br	Br	Br
Me	Br	F	C1	Ме	Br	I	Cl	Me	Br	CF <sub>3</sub>	Cl
Et	Br	F	C1	Et	Br	I	C1	Et	Br	CF <sub>3</sub>	C1
<i>i-</i> Pr	Br	F	C1	i-Pr	Br	I	C1	i-Pr	Br	CF <sub>3</sub>	C1
t-Bu	Br	F	C1	t-Bu	Br	I	Cl	t-Bu	Br	CF <sub>3</sub>	C1
Me	Br	F	Br	Ме	Br	I	Br	Me	Br	CF <sub>3</sub>	Br
Et	Br	F	Br	Et	Br	Ι	Br	Et	Br	CF <sub>3</sub>	Br
i-Pr	Br	F	Br	i-Pr	Br	I	Br	i-Pr	Br	CF <sub>3</sub>	Br
t-Bu	Br	F	Br	t-Bu	Br	I	Br	t-Bu	Br	CF <sub>3</sub>	Br
Me	Br	Cl	C1	Me	Br	Br	C1	Me	Br	Ι	C1
Et	Br	Cl	C1	Et	Br	Br	C1	Et	Br	Ι	C1
<i>i</i> -Pr	Br	C1	C1	<i>i-</i> Pr	Br	Br	C1	<i>i-</i> Pr	Br	Ι	C1
t-Bu	Br	C1	Cl	t-Bu	Br	Br	C1	t-Bu	Br	I	C1
Me	Br	C1	Br	Me	Br	Br	Br	Me	Br	I	Br
Et	Br	C1	Br	Et	Br	Br	Br	Et	Br	I	Br
i-Pr	Br	C1	Br	i-Pr	Br	Br	Br	<i>i-</i> Pr	Br	I	Br
t-Bu	Br	C1	Br	<i>t-</i> Bu	Br	Br	Br	<i>t</i> -Bu	Br	Ι	Br

# Formulation/Utility

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Compounds of this invention will generally be used as a formulation or composition with an agriculturally suitable carrier comprising at least one of a liquid diluent, a solid diluent or a surfactant. The formulation or composition ingredients are selected to be consistent with the physical properties of the active ingredient, mode of application and

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environmental factors such as soil type, moisture and temperature. Useful formulations include liquids such as solutions (including emulsifiable concentrates), suspensions, emulsions (including microemulsions and/or suspoemulsions) and the like which optionally can be thickened into gels. Useful formulations further include solids such as dusts, powders, granules, pellets, tablets, films, and the like which can be water-dispersible ("wettable") or water-soluble. Active ingredient can be (micro)encapsulated and further formed into a suspension or solid formulation; alternatively the entire formulation of active ingredient can be encapsulated (or "overcoated"). Encapsulation can control or delay release of the active ingredient. Sprayable formulations can be extended in suitable media and used at spray volumes from about one to several hundred liters per hectare. High-strength compositions are primarily used as intermediates for further formulation.

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The formulations will typically contain effective amounts of active ingredient, diluent and surfactant within the following approximate ranges that add up to 100 percent by weight.

	Weight Percent			
	<u>Active</u> <u>Ingredient</u>	Diluent	Surfactant	
Water-Dispersible and Water-soluble Granules, Tablets and Powders.	5–90	0–94	1–15	
Suspensions, Emulsions, Solutions (including Emulsifiable Concentrates)	550	40–95	, 0–15	
Dusts Granules and Pellets	1–25 0.01–99	70–99 5–99.99	0–5 0–15	
High Strength Compositions	90–99	0–10	0–2	

Typical solid diluents are described in Watkins, et al., *Handbook of Insecticide Dust Diluents and Carriers*, 2nd Ed., Dorland Books, Caldwell, New Jersey. Typical liquid diluents are described in Marsden, *Solvents Guide*, 2nd Ed., Interscience, New York, 1950. *McCutcheon's Detergents and Emulsifiers Annual*, Allured Publ. Corp., Ridgewood, New Jersey, as well as Sisely and Wood, *Encyclopedia of Surface Active Agents*, Chemical Publ. Co., Inc., New York, 1964, list surfactants and recommended uses. All formulations can contain minor amounts of additives to reduce foam, caking, corrosion, microbiological growth and the like, or thickeners to increase viscosity.

Surfactants include, for example, polyethoxylated alcohols, polyethoxylated alkylphenols, polyethoxylated sorbitan fatty acid esters, dialkyl sulfosuccinates, alkyl sulfates, alkylbenzene sulfonates, organosilicones, *N*,*N*-dialkyltaurates, lignin sulfonates, naphthalene sulfonate formaldehyde condensates, polycarboxylates, and polyoxyethylene/polyoxypropylene block copolymers. Solid diluents include, for example, clays such as bentonite, montmorillonite, attapulgite and kaolin, starch, sugar, silica, talc, diatomaceous earth, urea, calcium carbonate, sodium carbonate and bicarbonate, and sodium

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sulfate. Liquid diluents include, for example, water, *N*,*N*-dimethylformamide, dimethyl sulfoxide, *N*-alkylpyrrolidone, ethylene glycol, polypropylene glycol, propylene carbonate, dibasic esters, paraffins, alkylbenzenes, alkylnaphthalenes, oils of olive, castor, linseed, tung, sesame, corn, peanut, cotton-seed, soybean, rape-seed and coconut, fatty acid esters, ketones such as cyclohexanone, 2-heptanone, isophorone and 4-hydroxy-4-methyl-2-pentanone, and alcohols such as methanol, cyclohexanol, decanol, benzyl and tetrahydrofurfuryl alcohol.

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Solutions, including emulsifiable concentrates, can be prepared by simply mixing the ingredients. Dusts and powders can be prepared by blending and, usually, grinding as in a hammer mill or fluid-energy mill. Suspensions are usually prepared by wet-milling; see, for example, U.S. 3,060,084. Granules and pellets can be prepared by spraying the active material upon preformed granular carriers or by agglomeration techniques. See Browning, "Agglomeration", *Chemical Engineering*, December 4, 1967, pp 147–48, *Perry's Chemical Engineer's Handbook*, 4th Ed., McGraw-Hill, New York, 1963, pages 8–57 and following, and PCT Publication WO 91/13546. Pellets can be prepared as described in U.S. 4,172,714. Water-dispersible and water-soluble granules can be prepared as taught in U.S. 4,144,050, U.S. 3,920,442 and DE 3,246,493. Tablets can be prepared as taught in U.S. 5,180,587, U.S. 5,232,701 and U.S. 5,208,030. Films can be prepared as taught in GB 2,095,558 and U.S. 3,299,566.

For further information regarding the art of formulation, see T. S. Woods, "The Formulator's Toolbox – Product Forms for Modern Agriculture" in *Pesticide Chemistry and Bioscience, The Food–Environment Challenge*, T. Brooks and T. R. Roberts, Eds., Proceedings of the 9th International Congress on Pesticide Chemistry, The Royal Society of Chemistry, Cambridge, 1999, pp. 120–133. See also U.S. 3,235,361, Col. 6, line 16 through Col. 7, line 19 and Examples 10–41; U.S. 3,309,192, Col. 5, line 43 through Col. 7, line 62 and Examples 8, 12, 15, 39, 41, 52, 53, 58, 132, 138–140, 162–164, 166, 167 and 169–182; U.S. 2,891,855, Col. 3, line 66 through Col. 5, line 17 and Examples 1–4; Klingman, *Weed Control as a Science*, John Wiley and Sons, Inc., New York, 1961, pp 81–96; and Hance et al., *Weed Control Handbook*, 8th Ed., Blackwell Scientific Publications, Oxford, 1989.

In the following Examples, all percentages are by weight and all formulations are prepared in conventional ways. Compound numbers refer to compounds in Index Table A.

### Example A

	<u>Wettable Powder</u>	
	Compound 6	65.0%
	dodecylphenol polyethylene glycol ether	2.0%
35	sodium ligninsulfonate	4.0%
	sodium silicoaluminate	6.0%
	montmorillonite (calcined)	23.0%.

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## Example B

9	<u>Granule</u>	
	Compound 6	10.0%
	attapulgite granules (low volatile matter,	
5	0.71/0.30 mm; U.S.S. No. 25-50 sieves)	90.0%.

### Example C

Compound 6	25.0%
anhydrous sodium sulfate	10.0%
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crude calcium ligninsulfonate 5.0% sodium alkylnaphthalenesulfonate 1.0% calcium/magnesium bentonite 59.0%.

### Example D

## Emulsifiable Concentrate

Extruded Pellet

15 Compound 6 20.0% blend of oil soluble sulfonates and polyoxyethylene ethers 10.0% isophorone 70.0%.

Compounds of this invention are characterized by favorable metabolic and/or soil 20 residual patterns and exhibit activity controlling a spectrum of agronomic and nonagronomic invertebrate pests. (In the context of this disclosure "invertebrate pest control" means inhibition of invertebrate pest development (including mortality) that causes significant reduction in feeding or other injury or other damage caused by the pest; related expressions are defined analogously.) As referred to in this disclosure, the term 25 "invertebrate pest" includes arthropods, gastropods and nematodes of economic importance as pests. The term "arthropod" includes insects, mites, spiders, scorpions, centipedes, millipedes, pill bugs and symphylans. The term "gastropod" includes snails, slugs and other Stylommatophora. The term "nematode" includes all of the helminths, such as: roundworms, heartworms, and phytophagous nematodes (Nematoda), flukes (Tematoda), 30 Acanthocephala, and tapeworms (Cestoda). Those skilled in the art will recognize that not all compounds are equally effective against all pests. Compounds of this invention display activity against economically important agronomic, forest, greenhouse, nursery, ornamentals, food and fiber, public and animal health, domestic and commercial structure, household, and stored product pests. These include larvae of the order Lepidoptera, such as 35 armyworms, cutworms, loopers, and heliothines in the family Noctuidae (e.g., fall armyworm (Spodoptera fugiperda J. E. Smith), beet armyworm (Spodoptera exigua

Hübner), black cutworm (Agrotis ipsilon Hufnagel), cabbage looper (Trichoplusia ni

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Hübner), tobacco budworm (Heliothis virescens Fabricius)); borers, casebearers, webworms, coneworms, cabbageworms and skeletonizers from the family Pyralidae (e.g., European corn borer (Ostrinia nubilalis Hübner), navel orangeworm (Amyelois transitella Walker), corn root webworm (Crambus caliginosellus Clemens), sod webworm (Herpetogramma 5 licarsisalis Walker)); leafrollers, budworms, seed worms, and fruit worms in the family Tortricidae (e.g., codling moth (Cydia pomonella Linnaeus), grape berry moth (Endopiza viteana Clemens), oriental fruit moth (Grapholita molesta Busck)); and many other economically important lepidoptera (e.g., diamondback moth (Plutella xylostella Linnaeus), pink bollworm (Pectinophora gossypiella Saunders), gypsy moth (Lymantria dispar 10 Linnaeus)); nymphs and adults of the order Blattodea including cockroaches from the families Blattellidae and Blattidae (e.g., oriental cockroach (Blatta orientalis Linnaeus), Asian cockroach (Blatella asahinai Mizukubo), German cockroach (Blattella germanica Linnaeus), brownbanded cockroach (Supella longipalpa Fabricius), American cockroach (Periplaneta americana Linnaeus), brown cockroach (Periplaneta brunnea Burmeister), 15 Madeira cockroach (Leucophaea maderae Fabricius)); foliar feeding larvae and adults of the order Coleoptera including weevils from the families Anthribidae, Bruchidae, and Curculionidae (e.g., boll weevil (Anthonomus grandis Boheman), rice water weevil (Lissorhoptrus oryzophilus Kuschel), granary weevil (Sitophilus granarius Linnaeus), rice weevil (Sitophilus oryzae Linnaeus)); flea beetles, cucumber beetles, rootworms, leaf 20 beetles, potato beetles, and leafminers in the family Chrysomelidae (e.g., Colorado potato beetle (Leptinotarsa decemlineata Say), western corn rootworm (Diabrotica virgifera virgifera LeConte)); chafers and other beetles from the family Scaribaeidae (e.g., Japanese beetle (Popillia japonica Newman) and European chafer (Rhizotrogus majalis Razoumowsky)); carpet beetles from the family Dermestidae; wireworms from the family 25 Elateridae; bark beetles from the family Scolytidae and flour beetles from the family Tenebrionidae. In addition it includes: adults and larvae of the order Dermaptera including earwigs from the family Forficulidae (e.g., European earwig (Forficula auricularia Linnaeus), black earwig (Chelisoches morio Fabricius)); adults and nymphs of the orders Hemiptera and Homoptera such as, plant bugs from the family Miridae, cicadas from the 30 family Cicadidae, leafhoppers (e.g. Empoasca spp.) from the family Cicadellidae, planthoppers from the families Fulgoroidae and Delphacidae, treehoppers from the family Membracidae, psyllids from the family Psyllidae, whiteflies from the family Aleyrodidae, aphids from the family Aphididae, phylloxera from the family Phylloxeridae, mealybugs from the family Pseudococcidae, scales from the families Coccidae, Diaspididae and Margarodidae, lace bugs from the family Tingidae, stink bugs from the family Pentatomidae, 35 cinch bugs (e.g., Blissus spp.) and other seed bugs from the family Lygaeidae, spittlebugs from the family Cercopidae squash bugs from the family Coreidae, and red bugs and cotton stainers from the family Pyrrhocoridae. Also included are adults and larvae of the order

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Acari (mites) such as spider mites and red mites in the family Tetranychidae (e.g., European red mite (Panonychus ulmi Koch), two spotted spider mite (Tetranychus urticae Koch), McDaniel mite (Tetranychus mcdanieli McGregor)), flat mites in the family Tenuipalpidae (e.g., citrus flat mite (Brevipalpus lewisi McGregor)), rust and bud mites in the family 5 Eriophyidae and other foliar feeding mites and mites important in human and animal health, i.e. dust mites in the family Epidermoptidae, follicle mites in the family Demodicidae, grain mites in the family Glycyphagidae, ticks in the order Ixodidae (e.g., deer tick (Ixodes scapularis Say), Australian paralysis tick (Ixodes holocyclus Neumann), American dog tick (Dermacentor variabilis Say), lone star tick (Amblyomma americanum Linnaeus) and scab 10 and itch mites in the families Psoroptidae, Pyemotidae, and Sarcoptidae; adults and immatures of the order Orthoptera including grasshoppers, locusts and crickets (e.g., migratory grasshoppers (e.g., Melanoplus sanguinipes Fabricius, M. differentialis Thomas), American grasshoppers (e.g., Schistocerca americana Drury), desert locust (Schistocerca gregaria Forskal), migratory locust (Locusta migratoria Linnaeus), house cricket (Acheta 15 domesticus Linnaeus), mole crickets (Gryllotalpa spp.)); adults and immatures of the order Diptera including leafminers, midges, fruit flies (Tephritidae), frit flies (e.g., Oscinella frit Linnaeus), soil maggots, house flies (e.g., Musca domestica Linnaeus), lesser house flies (e.g., Fannia canicularis Linnaeus, F. femoralis Stein), stable flies (e.g., Stomoxys calcitrans Linnaeus), face flies, horn flies, blow flies (e.g., Chrysomya spp., Phormia spp.), and other 20 muscoid fly pests, horse flies (e.g., Tabanus spp.), bot flies (e.g., Gastrophilus spp., Oestrus spp.), cattle grubs (e.g., Hypoderma spp.), deer flies (e.g., Chrysops spp.), keds (e.g., Melophagus ovinus Linnaeus) and other Brachycera, mosquitoes (e.g., Aedes spp., Anopheles spp., Culex spp.), black flies (e.g., Prosimulium spp., Simulium spp.), biting midges, sand flies, sciarids, and other Nematocera; adults and immatures of the order 25 Thysanoptera including onion thrips (Thrips tabaci Lindeman) and other foliar feeding thrips; insect pests of the order Hymenoptera including ants (e.g., red carpenter ant (Camponotus ferrugineus Fabricius), black carpenter ant (Camponotus pennsylvanicus De Geer), Pharaoh ant (Monomorium pharaonis Linnaeus), little fire ant (Wasmannia auropunctata Roger), fire ant (Solenopsis geminata Fabricius), red imported fire ant 30 (Solenopsis invicta Buren), Argentine ant (Iridomyrmex humilis Mayr), crazy ant (Paratrechina longicornis Latreille), pavement ant (Tetramorium caespitum Linnaeus), cornfield ant (Lasius alienus Förster), odorous house ant (Tapinoma sessile Say)), bees (including carpenter bees), hornets, yellow jackets and wasps; insect pests of the order Isoptera including the eastern subterranean termite (Reticulitermes flavipes Kollar), western subterranean termite (Reticulitermes hesperus Banks), Formosan subterranean termite 35 (Coptotermes formosanus Shiraki), West Indian drywood termite (Incisitermes immigrans Snyder) and other termites of economic importance; insect pests of the order Thysanura such as silverfish (Lepisma saccharina Linnaeus) and firebrat (Thermobia domestica Packard);

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insect pests of the order Mallophaga and including the head louse (Pediculus humanus capitis De Geer), body louse (Pediculus humanus humanus Linnaeus), chicken body louse (Menacanthus stramineus Nitszch), dog biting louse (Trichodectes canis De Geer), fluff louse (Goniocotes gallinae De Geer), sheep body louse (Bovicola ovis Schrank), short-nosed 5 cattle louse (Haematopinus eurysternus Nitzsch), long-nosed cattle louse (Linognathus vituli Linnaeus) and other sucking and chewing parasitic lice that attack man and animals; insect pests of the order Siphonoptera including the oriental rat flea (Xenopsylla cheopis Rothschild), cat flea (Ctenocephalides felis Bouche), dog flea (Ctenocephalides canis Curtis), hen flea (Ceratophyllus gallinae Schrank), sticktight flea (Echidnophaga gallinacea Westwood), human flea (Pulex irritans Linnaeus) and other fleas afflicting mammals and 10 birds. Additional arthropod pests covered include: spiders in the order Araneae such as the brown recluse spider (Loxosceles reclusa Gertsch & Mulaik) and the black widow spider (Latrodectus mactans Fabricius), and centipedes in the order Scutigeromorpha such as the house centipede (Scutigera coleoptrata Linnaeus). Activity also includes members of the 15 Classes Nematoda, Cestoda, Trematoda, and Acanthocephala including economically important members of the orders Strongylida, Ascaridida, Oxyurida, Rhabditida, Spirurida, and Enoplida such as but not limited to economically important agricultural pests (i.e. root knot nematodes in the genus Meloidogyne, lesion nematodes in the genus Pratylenchus, stubby root nematodes in the genus Trichodorus, etc.) and animal and human health pests 20 (i.e. all economically important flukes, tapeworms, and roundworms, such as Strongylus vulgaris in horses, Toxocara canis in dogs, Haemonchus contortus in sheep, Dirofilaria immitis Leidy in dogs, Anoplocephala perfoliata in horses, Fasciola hepatica Linnaeus in ruminants, etc.).

Compounds of the invention show particularly high activity against pests in the order 25 Lepidoptera (e.g., Alabama argillacea Hübner (cotton leaf worm), Archips argyrospila Walker (fruit tree leaf roller), A. rosana Linnaeus (European leaf roller) and other Archips species, Chilo suppressalis Walker (rice stem borer), Cnaphalocrosis medinalis Guenee (rice leaf roller), Crambus caliginos ellus Clemens (corn root webworm), Crambus teterrellus Zincken (bluegrass webworm), Cydia pomonella Linnaeus (codling moth), Earias insulana 30 Boisduval (spiny bollworm), Earias vittella Fabricius (spotted bollworm), Helicoverpa armigera Hübner (American bollworm), Helicoverpa zea Boddie (corn earworm), Heliothis virescens Fabricius (tobacco budworm), Herpetogramma licarsisalis Walker (sod webworm), Lobesia botrana Denis & Schiffermüller (grape berry moth), Pectinophora gossypiella Saunders (pink bollworm), Phyllocnistis citrella Stainton (citrus leafminer), 35 Pieris brassicae Linnaeus (large white butterfly), Pieris rapae Linnaeus (small white butterfly), Plutella xylostella Linnaeus (diamondback moth), Spodoptera exigua Hübner (beet armyworm), Spodoptera litura Fabricius (tobacco cutworm, cluster caterpillar), Spodoptera frugiperda J. E. Smith (fall armyworm), Trichoplusia ni Hübner (cabbage

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looper) and Tuta absoluta Meyrick (tomato leafminer)). Compounds of the invention also have commercially significant activity on members from the order Homoptera including: Acyrthisiphon pisum Harris (pea aphid), Aphis craccivora Koch (cowpea aphid), Aphis fabae Scopoli (black bean aphid), Aphis gossypii Glover (cotton aphid, melon aphid), Aphis pomi De Geer (apple aphid), Aphis spiraecola Patch (spirea aphid), Aulacorthum solani Kaltenbach (foxglove aphid), Chaetosiphon fragaefolii Cockerell (strawberry aphid), Diuraphis noxia Kurdjumov/Mordvilko (Russian wheat aphid), Dysaphis plantaginea Paaserini (rosy apple aphid), Eriosoma lanigerum Hausmann (woolly apple aphid), Hyalopterus pruni Geoffroy (mealy plum aphid), Lipaphis erysimi Kaltenbach (turnip aphid), Metopolophium dirrhodum Walker (cereal aphid), Macrosipum euphorbiae Thomas (potato aphid), Myzus persicae Sulzer (peach-potato aphid, green peach aphid), Nasonovia ribisnigri Mosley (lettuce aphid), Pemphigus spp. (root aphids and gall aphids), Rhopalosiphum maidis Fitch (corn leaf aphid), Rhopalosiphum padi Linnaeus (bird cherryoat aphid), Schizaphis graminum Rondani (greenbug), Sitobion avenae Fabricius (English grain aphid), Therioaphis maculata Buckton (spotted alfalfa aphid), Toxoptera aurantii Boyer de Fonscolombe (black citrus aphid), and Toxoptera citricida Kirkaldy (brown citrus aphid); Adelges spp. (adelgids); Phylloxera devastatrix Pergande (pecan phylloxera); Bemisia tabaci Gennadius (tobacco whitefly, sweetpotato whitefly), Bemisia argentifolii Bellows & Perring (silverleaf whitefly), Dialeurodes citri Ashmead (citrus whitefly) and Trialeurodes vaporariorum Westwood (greenhouse whitefly); Empoasca fabae Harris (potato leafhopper), Laodelphax striatellus Fallen (smaller brown planthopper), Macrolestes quadrilineatus Forbes (aster leafhopper), Nephotettix cinticeps Uhler (green leafhopper), Nephotettix nigropictus Stål (rice leafhopper), Nilaparvata lugens Stål (brown planthopper), Peregrinus maidis Ashmead (corn planthopper), Sogatella furcifera Horvath (white-backed planthopper), Sogatodes orizicola Muir (rice delphacid), Typhlocyba pomaria McAtee white apple leafhopper, Erythroneoura spp. (grape leafhoppers); Magicidada septendecim Linnaeus (periodical cicada); Icerya purchasi Maskell (cottony cushion scale), Quadraspidiotus perniciosus Comstock (San Jose scale); Planococcus citri Risso (citrus mealybug); Pseudococcus spp. (other mealybug complex); Cacopsylla pyricola Foerster (pear psylla), Trioza diospyri Ashmead (persimmon psylla). These compounds also have activity on members from the order Hemiptera including; Acrosternum hilare Say (green stink bug), Anasa tristis De Geer (squash bug), Blissus leucopterus leucopterus Say (chinch bug), Corythuca gossypii Fabricius (cotton lace bug), Cyrtopeltis modesta Distant (tomato bug), Dysdercus suturellus Herrich-Schäffer (cotton stainer), Euchistus servus Say (brown stink bug), Euchistus variolarius Palisot de Beauvois (one-spotted stink bug), Graptosthetus spp. (complex of seed bugs), Leptoglossus corculus Say (leaf-footed pine seed bug), Lygus lineolaris Palisot de Beauvois (tarnished plant bug), Nezara viridula Linnaeus (southern

green stink bug), Oebalus pugnax Fabricius (rice stink bug), Oncopeltus fasciatus Dallas

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(large milkweed bug), *Pseudatomoscelis seriatus* Reuter (cotton fleahopper). Other insect orders controlled by compounds of the invention include Thysanoptera (e.g., *Frankliniella occidentalis* Pergande (western flower thrip), *Scirthothrips citri* Moulton (citrus thrip), *Sericothrips variabilis* Beach (soybean thrip), and *Thrips tabaci* Lindeman (onion thrip); and the order Coleoptera (e.g., *Leptinotarsa decemlineata* Say (Colorado potato beetle), *Epilachna varivestis* Mulsant (Mexican bean beetle) and wireworms of the genera *Agriotes*, *Athous* or *Limonius*).

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Compounds of this invention can also be mixed with one or more other biologically active compounds or agents including insecticides, fungicides, nematocides, bactericides, acaricides, growth regulators such as rooting stimulants, chemosterilants, semiochemicals, repellents, attractants, pheromones, feeding stimulants, other biologically active compounds or entomopathogenic bacteria, virus or fungi to form a multi-component pesticide giving an even broader spectrum of agricultural utility. Thus compositions of the present invention can further comprise a biologically effective amount of at least one additional biologically active compound or agent. Examples of such biologically active compounds or agents with which compounds of this invention can be formulated are: insecticides such as abamectin, acephate, acetamiprid, avermectin, azadirachtin, azinphos-methyl, bifenthrin, binfenazate, buprofezin, carbofuran, chlorfenapyr, chlorfluazuron, chlorpyrifos, chlorpyrifos-methyl, chromafenozide, clothianidin, cyfluthrin, beta-cyfluthrin, cyhalothrin, lambda-cyhalothrin, cypermethrin, cyromazine, deltamethrin, diafenthiuron, diazinon, diflubenzuron, dimethoate, diofenolan, emamectin, endosulfan, esfenvalerate, ethiprole, fenothicarb, fenoxycarb, fenpropathrin, fenproximate, fenvalerate, fipronil, flonicamid, flucythrinate, tau-fluvalinate, flufenoxuron, fonophos, halofenozide, hexaflumuron, imidacloprid, indoxacarb, isofenphos, lufenuron, malathion, metaldehyde, methamidophos, methidathion, methomyl, methoprene, methoxychlor, monocrotophos, methoxyfenozide, nithiazin, novaluron, oxamyl, parathion, parathion-methyl, permethrin, phorate, phosalone, phosmet, phosphamidon, pirimicarb, profenofos, pymetrozine, pyridalyl, pyriproxyfen, rotenone, spinosad, sulprofos, tebufenozide, teflubenzuron, tefluthrin, terbufos, tetrachlorvinphos, thiacloprid, thiamethoxam, thiodicarb, thiosultap-sodium, tralomethrin, trichlorfon and triflumuron; fungicides such as acibenzolar, azoxystrobin, benomyl, blasticidin-S, Bordeaux mixture (tribasic copper sulfate), bromuconazole, carpropamid, captafol, captan, carbendazim, chloroneb, chlorothalonil, copper oxychloride, copper salts, cyflufenamid, cymoxanil, cyproconazole, cyprodinil, (S)-3,5-dichloro-N-(3-chloro-1-ethyl-1-methyl-2-oxopropyl)-4methylbenzamide (RH 7281), diclocymet (S-2900), diclomezine, dicloran, difenoconazole, (S)-3,5-dihydro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-4H-imidazol-4-one (RP 407213), dimethomorph, dimoxystrobin, diniconazole, diniconazole-M, dodine, edifenphos, epoxiconazole, famoxadone, fenamidone, fenarimol, fenbuconazole, fencaramid (SZX0722), fenpiclonil, fenpropidin, fenpropimorph, fentin acetate, fentin hydroxide,

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fluazinam, fludioxonil, flumetover (RPA 403397), fluquinconazole, flusilazole, flutolanil, flutriafol, folpet, fosetyl-aluminum, furalaxyl, furametapyr (S-82658), hexaconazole, ipconazole, iprobenfos, iprodione, isoprothiolane, kasugamycin, kresoxim-methyl, mancozeb, maneb, mefenoxam, mepronil, metalaxyl, metconazole, metominostrobin/fenominostrobin (SSF-126), myclobutanil, neo-asozin (ferric methanearsonate), oxadixyl, penconazole, pencycuron, probenazole, prochloraz, propamocarb, propiconazole, pyrifenox, pyraclostrobin, pyrimethanil, pyroquilon, quinoxyfen, spiroxamine, sulfur, tebuconazole, tetraconazole, thiabendazole, thifluzamide, thiophanate-methyl, thiram, tiadinil, triadimefon, triadimenol, tricyclazole, trifloxystrobin, triticonazole, validamycin and vinclozolin; nematocides such as aldicarb, oxamyl and fenamiphos; bactericides such as streptomycin; acaricides such as amitraz, chinomethionat, chlorobenzilate, cyhexatin, dicofol, dienochlor, etoxazole, fenazaquin, fenbutatin oxide, fenpropathrin, fenpyroximate, hexythiazox, propargite, pyridaben and tebufenpyrad; and biological agents such as *Bacillus thuringiensis* including ssp. *aizawai* and *kurstaki*, *Bacillus thuringiensis* delta endotoxin, baculovirus, and entomopathogenic bacteria, virus and fungi.

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A general reference for these agricultural protectants is *The Pesticide Manual, 12th Edition*, C. D. S. Tomlin, Ed., British Crop Protection Council, Farnham, Surrey, U.K., 2000.

Of note are combinations of a compound of Formula 1d with the biologically active compounds above.

Preferred insecticides and acaricides for mixing with compounds of this invention include pyrethroids such as cypermethrin, cyhalothrin, cyfluthrin and beta-cyfluthrin, esfenvalerate, fenvalerate and tralomethrin; carbamates such as fenothicarb, methomyl, oxamyl and thiodicarb; neonicotinoids such as clothianidin, imidacloprid and thiacloprid, neuronal sodium channel blockers such as indoxacarb, insecticidal macrocyclic lactones such as spinosad, abamectin, avermectin and emamectin;  $\gamma$ -aminobutyric acid (GABA) antagonists such as endosulfan, ethiprole and fipronil; insecticidal ureas such as flufenoxuron and triflumuron, juvenile hormone mimics such as diofenolan and pyriproxyfen; pymetrozine; and amitraz. Preferred biological agents for mixing with compounds of this invention include *Bacillus thuringiensis* and *Bacillus thuringiensis* delta endotoxin as well as naturally occurring and genetically modified viral insecticides including members of the family Baculoviridae as well as entomophagous fungi. Of note are combinations of a compound of Formula 1d with the preferred insecticides and acaricides above.

Most preferred mixtures include a mixture of a compound of this invention with cyhalothrin; a mixture of a compound of this invention with beta-cyfluthrin; a mixture of a compound of this invention with esfenvalerate; a mixture of a compound of this invention with methomyl; a mixture of a compound of this invention with imidacloprid; a mixture of a

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compound of this invention with thiacloprid; a mixture of a compound of this invention with indoxacarb; a mixture of a compound of this invention with abamectin; a mixture of a compound of this invention with endosulfan; a mixture of a compound of this invention with fipronil; a mixture of a compound of this invention with flufenoxuron; a mixture of a compound of this invention with pyriproxyfen; a mixture of a compound of this invention with pyriproxyfen; a mixture of a compound of this invention with amitraz; a mixture of a compound of this invention with *Bacillus thuringiensis* and a mixture of a compound of this invention with *Bacillus thuringiensis* delta endotoxin.

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In certain instances, combinations with other invertebrate pest control compounds or agents having a similar spectrum of control but a different mode of action will be particularly advantageous for resistance management. Thus, compositions of the present invention can further comprise an biologically effective amount of at least one additional invertebrate pest control compounds or agents having a similar spectrum of control but a different mode of action. Contacting a plant genetically modified to express a plant protection compound (e.g., protein) or the locus of the plant with a biologically effective amount of a compound of invention can also provide a broader spectrum of plant protection and be advantageous for resistance management.

Invertebrate pests are controlled and protection of agronomic, horticultural and specialty crops, animal and human health is achieved by applying one or more of the compounds of this invention, in an effective amount, to the environment of the pests including the agronomic and/or nonagronomic locus of infestation, to the area to be protected, or directly on the pests to be controlled. Thus, the present invention further comprises a method for the control of foliar- and soil-inhabiting invertebrates and protection of agronomic and/or nonagronomic crops, comprising contacting the invertebrates or their environment with a biologically effective amount of one or more of the compounds of the invention, or with a composition comprising at least one such compound or a composition comprising at least one such compound and an effective amount of at least one additional biologically active compound or agent. A preferred method of contact is by spraying. Alternatively, a granular composition comprising a compound of the invention can be applied to the plant foliage or the soil. Compounds of this invention are effective in delivery through plant uptake by contacting the plant with a composition comprising a compound of this invention applied as a soil drench of a liquid formulation, a granular formulation to the soil, a nursery box treatment or a dip of transplants. Other methods of contact include application of a compound or a composition of the invention by direct and residual sprays, aerial sprays, seed coats, microencapsulations, systemic uptake, baits, eartags, boluses, foggers, fumigants, aerosols, dusts and many others.

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The compounds of this invention can be incorporated into baits that are consumed by the invertebrates or within devices such as traps and the like. Granules or baits comprising between 0.01–5% active ingredient, 0.05–10% moisture retaining agent(s) and 40–99% vegetable flour are effective in controlling soil insects at very low application rates, particularly at doses of active ingredient that are lethal by ingestion rather than by direct contact.

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The compounds of this invention can be applied in their pure state, but most often application will be of a formulation comprising one or more compounds with suitable carriers, diluents, and surfactants and possibly in combination with a food depending on the contemplated end use. A preferred method of application involves spraying a water dispersion or refined oil solution of the compounds. Combinations with spray oils, spray oil concentrations, spreader stickers, adjuvants, other solvents, and synergists such as piperonyl butoxide often enhance compound efficacy.

The rate of application required for effective control (i.e. "biologically effective amount") will depend on such factors as the species of invertebrate to be controlled, the pest's life cycle, life stage, its size, location, time of year, host crop or animal, feeding behavior, mating behavior, ambient moisture, temperature, and the like. Under normal circumstances, application rates of about 0.01 to 2 kg of active ingredient per hectare are sufficient to control pests in agronomic ecosystems, but as little as 0.0001 kg/hectare may be sufficient or as much as 8 kg/hectare may be required. For nonagronomic applications, effective use rates will range from about 1.0 to 50 mg/square meter but as little as 0.1 mg/square meter may be sufficient or as much as 150 mg/square meter may be required. One skilled in the art can easily determine the biologically effective amount necessary for the desired level of invertebrate pest control.

The following TESTS demonstrate the control efficacy of compounds of this invention on specific pests. "Control efficacy" represents inhibition of arthropod development (including mortality) that causes significantly reduced feeding. The pest control protection afforded by the compounds is not limited, however, to these species. See Index Tables A-B for compound descriptions. The following abbreviations are used in the Index Tables which follow: Me is methyl, *i*-Pr is isopropyl, Ph is phenyl. The abbreviation "dec" indicates that the compound appeared to decompose on melting. The abbreviation "Ex." stands for "Example" and is followed by a number indicating in which example the compound is prepared.

215 INDEX TABLE A

Compound	R <sup>3</sup>	R <sup>4</sup>	R <sup>7</sup>	X	Y	Z	m.p. °C
1 (Ex. 1)	<i>i-</i> Pr	3-I	OCH <sub>2</sub> CF <sub>3</sub>	CH	CH	N	220-225
2 (Ex. 1)	<i>i-</i> Pr	6-I	OCH <sub>2</sub> CF <sub>3</sub>	CH	CH	N	200-203
3	i-Pr	3-Me	OCH <sub>2</sub> CF <sub>3</sub>	CH	CH	N	205-210
4	<i>i-</i> Pr	6-Ме	OCH <sub>2</sub> CF <sub>3</sub>	CH	CH	N	193-196

# INDEX TABLE B

Compound	R <sup>3</sup>	R <sup>4</sup>	Q	X	Y	Z	m.p. °C
5	i-Pr	3-I	NPh	N	CH	СМе	193-194
6	<i>i-</i> Pr	6-I	NPh	N	CH	СМе	216-218
7	i-Pr	3-I	NMe	N	CH	CMe	220-222
8	i-Pr	6-I	NMe	N	CH	CMe	233-234
9	<i>i-</i> Pr	3-I	NMe	N	CH	C-cyclopropyl	222-224
10	<i>i-</i> Pr	6 <b>-</b> I	NMe	N	CH	C-cyclopropyl	215-217
11(Ex. 2)	<i>i-</i> Pr	6-I	N(2-ClPh)	N	CH	CCF <sub>3</sub>	234-235
12 (Ex. 2)	<i>i-</i> Pr	3-I	N(2-ClPh)	N	CH	CCF <sub>3</sub>	226-228

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### BIOLOGICAL EXAMPLES OF THE INVENTION

#### TEST A

For evaluating control of diamondback moth (*Plutella xylostella*) the test unit consisted of a small open container with a 12–14-day-old radish plant inside. This was pre-infested with 10–15 neonate larvae on a piece of insect diet by use of a core sampler to remove a plug from a sheet of hardened insect diet having many larvae growing on it and transfer the plug containing larvae and diet to the test unit. The larvae moved onto the test plant as the diet plug dried out.

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Test compounds were formulated using a solution containing 10% acetone, 90% water and 300 ppm X-77® Spreader Lo-Foam Formula non-ionic surfactant containing alkylarylpolyoxyethylene, free fatty acids, glycols and isopropanol (Loveland Industries, Inc.), unless otherwise indicated. The formulated compounds were applied in 1 mL of liquid through a SUJ2 atomizer nozzle with 1/8 JJ custom body (Spraying Systems Co.) positioned 1.27 cm (0.5 inches) above the top of each test unit. All experimental compounds in this screen were sprayed at 50 ppm and replicated three times. After spraying of the formulated test compound, each test unit was allowed to dry for 1 hour and then a black, screened cap was placed on top. The test units were held for 6 days in a growth chamber at 25 °C and 70% relative humidity. Plant feeding damage was then visually assessed.

Of the compounds tested, the following provided excellent levels of plant protection (10% or less feeding damage): 1, 2, 3, 4, 6, 7, 9, 10.

### TEST B

For evaluating control of fall armyworm (*Spodoptera frugiperda*) the test unit consisted of a small open container with a 4–5-day-old corn (maize) plant inside. This was pre-infested with 10–15 1-day-old larvae on a piece of insect diet by use of a core sampler as described for Test A.

Test compounds were formulated and sprayed at 50 ppm as described for Test A. The applications were replicated three times. After spraying, the test units were maintained in a growth chamber and then visually rated as described for Test A.

Of the compounds tested, the following provided excellent levels of plant protection (10% or less feeding damage): 1, 9.

### TEST C

For evaluating control of tobacco budworm (*Heliothis virescens*) the test unit consisted of a small open container with a 6–7 day old cotton plant inside. This was pre-infested with 8 2-day-old larvae on a piece of insect diet by use of a core sampler as described for Test A.

Test compounds were formulated and sprayed at 50 ppm as described for Test A. The applications were replicated three times. After spraying, the test units were maintained in a growth chamber and then visually rated as described for Test A.

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Of the compounds tested, the following provided excellent levels of plant protection (10% or less feeding damage): 1, 3, 7, 9.

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## **CLAIMS**

What is claimed is:

1. A compound of Formula I and N-oxides and agriculturally suitable salts thereof

$$(R^4)_n$$
 $(R^4)_n$ 
 $(R^4$ 

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wherein

J is selected from the group consisting of J-1, J-2, J-3, J-4, J-5, J-6, J-7 and J-8

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 $R^1$  is H,  $C_1\text{-}C_6$  alkyl,  $C_2\text{-}C_6$  alkoxycarbonyl or  $C_2\text{-}C_6$  alkylcarbonyl;  $R^2$  is H or  $C_1\text{-}C_6$  alkyl;

R<sup>3</sup> is H; C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, or C<sub>4</sub>-C<sub>8</sub> cycloalkylalkyl, each optionally substituted with one or more substituents selected from the group consisting of halogen, CN, NO<sub>2</sub>, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkyl,

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 $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy,  $C_1$ - $C_4$  alkylthio,  $C_1$ - $C_4$  alkylsulfinyl,  $C_1$ - $C_4$  alkylsulfonyl,  $C_2$ - $C_6$  alkoxycarbonyl or  $C_2$ - $C_6$  alkylcarbonyl;

one  $R^4$  group is attached to the phenyl ring at the 3-position or 6-position, and said  $R^4$  is  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  haloalkyl, halogen, CN, NO<sub>2</sub>,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy,  $C_1$ - $C_4$  alkylthio,  $C_1$ - $C_4$  alkylsulfinyl,  $C_1$ - $C_4$  haloalkylthio,  $C_1$ - $C_4$  haloalkylsulfinyl, or  $C_1$ - $C_4$  haloalkylsulfonyl; and

an optional second  $R^4$  is H,  $C_1$ - $C_6$  alkyl,  $C_2$ - $C_6$  alkenyl,  $C_2$ - $C_6$  alkynyl,  $C_3$ - $C_6$  cycloalkyl,  $C_1$ - $C_6$  haloalkyl,  $C_2$ - $C_6$  haloalkenyl,  $C_2$ - $C_6$  haloalkynyl,  $C_3$ - $C_6$  halocycloalkyl, halogen, CN, NO<sub>2</sub>, hydroxy,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  haloalkoxy,  $C_1$ - $C_4$  alkylthio,  $C_1$ - $C_4$  alkylsulfinyl,  $C_1$ - $C_4$  alkylsulfonyl,  $C_1$ - $C_4$  haloalkylthio,  $C_1$ - $C_4$  haloalkylsulfinyl,  $C_1$ - $C_4$  haloalkylsulfonyl,  $C_1$ - $C_4$  alkylamino,  $C_2$ - $C_8$  dialkylamino,  $C_3$ - $C_6$  cycloalkylamino,  $C_1$ - $C_4$  alkoxyalkyl,  $C_1$ - $C_4$  hydroxyalkyl,  $C(O)R^{10}$ ,  $CO_2R^{10}$ ,  $C(O)NR^{10}R^{11}$ ,  $NR^{10}R^{11}$ ,  $N(R^{11})COR^{10}$ ,  $N(R^{11})CO_2R^{10}$  or  $C_3$ - $C_6$  trialkylsilyl;

 $R^5$  is H,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  haloalkyl, or

V is N, CH, CF, CCl, CBr or CI;

each R<sup>6</sup> and R<sup>7</sup> is independently H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>1</sub>-C<sub>6</sub> haloalkyl, halogen, CN, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> haloalkoxy or C<sub>1</sub>-C<sub>4</sub> haloalkylthio;

 $R^9$  is H,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  haloalkyl,  $C_3$ - $C_6$  alkenyl,  $C_3$ - $C_6$  haloalkenyl,  $C_3$ - $C_6$  alkynyl or  $C_3$ - $C_6$  haloalkynyl; provided  $R^7$  and  $R^9$  are not both H;

 $R^{10}$  is H or  $C_1$ – $C_4$  alkyl or  $C_1$ – $C_4$  haloalkyl;

 $R^{11}$  is H or  $C_1$ – $C_4$  alkyl; and

n is 1 or 2.

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2. The compound of Claim 1 wherein V is N.

- 3. The compound of Claim 1 wherein V is CH, CF, CCl or CBr.
- 4. The compound of Claim 2 or Claim 3 wherein

 $R^1$  and  $R^2$  are both H;

R<sup>3</sup> is C<sub>1</sub>-C<sub>4</sub> alkyl optionally substituted with halogen, CN, OCH<sub>3</sub>, S(O)<sub>p</sub>CH<sub>3</sub>; one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is CH<sub>3</sub>, CF<sub>3</sub>, OCF<sub>3</sub>, OCHF<sub>2</sub>, S(O)<sub>p</sub>CF<sub>3</sub>, S(O)<sub>p</sub>CHF<sub>2</sub>, CN or halogen; a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;

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 $R^6$  is  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  haloalkyl, halogen or CN;  $R^7$  is H,  $CH_3$ ,  $CF_3$ ,  $OCHF_2$  or halogen; and p is 0, 1 or 2.

5. The compound of Claim 4 wherein

5 J is J-1;

 $\mathbb{R}^3$  is  $\mathbb{C}_1$ - $\mathbb{C}_4$  alkyl;

one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is CH<sub>3</sub>, Cl, Br or I;

a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;

 $R^6$  is Cl or Br; and

R<sup>7</sup> is halogen or CF<sub>3</sub>.

6. The compound of Claim 5 wherein

V is N:

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R<sup>3</sup> is methyl, ethyl, isopropyl or tertiary butyl;

one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is CH<sub>3</sub> or I; R<sup>6</sup> is Cl or Br; and

R<sup>7</sup> is Br, Cl or CF<sub>3</sub>.

7. The compound of Claim 6 selected from the group consisting of:

 $N^I$ -[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-3-methyl- $N^2$ -(1-methylethyl)-1,2-benzenedicarboxamide,

 $N^{I}$ -[1-(3-bromo-1-(3-chloro-2-pyridinyl)-1H-pyrazol-5-yl]-3-methyl- $N^{2}$ -(1-methylethyl)-1,2-benzenedicarboxamide,

 $N^I$ -[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-3-iodo- $N^2$ -(1-methylethyl)-1,2-benzenedicarboxamide, and

- $N^{I}$ -[1-(3-bromo-1-(3-chloro-2-pyridinyl)-1H-pyrazol-5-yl]-3-iodo- $N^{2}$ -(1-methylethyl)-1,2-benzenedicarboxamide.
- 8. The compound of Claim 4 wherein

J is J-2;

 $R^3$  is  $C_1$ - $C_4$  alkyl;

one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is CH<sub>3</sub>, Cl, Br or I;

a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;

R6 is C1 or Br; and

 $R^9$  is  $CF_3$ ,  $CHF_2$ ,  $CH_2CF_3$ ,  $CF_2CHF_2$ .

359. The compound of Claim 4 whereinJ is J-3;

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R<sup>6</sup> is Cl or Br;

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 $R^3$  is  $C_1$ - $C_4$  alkyl; one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is CH<sub>3</sub>, Cl, Br or I; a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>; R<sup>6</sup> is Cl or Br; and R<sup>7</sup> is halogen or CF<sub>3</sub>. The compound of Claim 4 wherein 10. J is J-4;  $\mathbb{R}^3$  is  $\mathbb{C}_1$ - $\mathbb{C}_4$  alkyl; one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is CH<sub>3</sub>, Cl, Br a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>; R<sup>6</sup> is Cl or Br; and  $R^7$  is  $CF_3$ . 11. The compound of Claim 4 wherein J is J-5;  $R^3$  is  $C_1$ - $C_4$  alkyl; one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is CH<sub>3</sub>, Cl, Br or I; a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>; R<sup>6</sup> is Cl or Br; and R<sup>9</sup> is CF<sub>3</sub>, CHF<sub>2</sub>, CH<sub>2</sub>CF<sub>3</sub>, CF<sub>2</sub>CHF<sub>2</sub>. The compound of Claim 4 wherein 12. J is J-6;  $R^3$  is  $C_1$ - $C_4$  alkyl; one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is CH<sub>3</sub>, Cl, Br a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>; R<sup>6</sup> is Cl or Br; and R<sup>7</sup> is halogen or CF<sub>3</sub>. The compound of Claim 4 wherein 13. J is J-7;  $R^3$  is  $C_1$ - $C_4$  alkyl; one R<sup>4</sup> group is attached to the K-ring at the 2-position and said R<sup>4</sup> is CH<sub>3</sub>, Cl or Br; a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;

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R<sup>7</sup> is H, halogen or CF<sub>3</sub> and
R<sup>9</sup> is H, CF<sub>3</sub>, CHF<sub>2</sub>, CH<sub>2</sub>CF<sub>3</sub>, CF<sub>2</sub>CHF<sub>2</sub>.
14. The compound of Claim 4 wherein
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J is J-8;

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 $R^3$  is  $C_1$ - $C_4$  alkyl;

one R<sup>4</sup> group is attached to the phenyl ring at the 3-position and said R<sup>4</sup> is CH<sub>3</sub>, Cl, Br or I;

a second R<sup>4</sup> is H, F, Cl, Br, I or CF<sub>3</sub>;

R<sup>6</sup> is Cl or Br;

R<sup>7</sup> is H, halogen or CF<sub>3</sub>.and

R<sup>9</sup> is H, CF<sub>3</sub>, CHF<sub>2</sub>, CH<sub>2</sub>CF<sub>3</sub>, CF<sub>2</sub>CHF<sub>2</sub>.

- 15. A composition for controlling an invertebrate pest comprising a biologically effective amount of a compound of Claim 1 and at least one additional component selected from the group consisting of a surfactant, a solid diluent or a liquid diluent.
- 16. The composition of Claim 15 further comprising an effective amount of at least one additional biologically active compound or agent.
  - 17. The composition of Claim 16 wherein at least one additional biologically active compound or agent is selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones,  $\gamma$ -aminobutyric acid (GABA) antagonists, insecticidal ureas and juvenile hormone mimics.
- 18. The composition of Claim 16 wherein at least one additional biologically active compound or agent is selected from insecticide, nematocide, acaricide or biological agents in the group consisting of abamectin, acephate, acetamiprid, avermectin, azadirachtin, 25 azinphos-methyl, bifenthrin, binfenazate, buprofezin, carbofuran, chlorfenapyr, chlorfluazuron, chlorpyrifos, chlorpyrifos-methyl, chromafenozide, clothianidin, cyfluthrin, beta-cyfluthrin, cyhalothrin, lambda-cyhalothrin, cypermethrin, cyromazine, deltamethrin, diafenthiuron, diazinon, diflubenzuron, dimethoate, diofenolan, emamectin, endosulfan, esfenvalerate, ethiprole, fenothicarb, fenoxycarb, fenpropathrin, fenproximate, fenvalerate, 30 fipronil, flonicamid, flucythrinate, tau-fluvalinate, flufenoxuron, fonophos, halofenozide, hexaflumuron, imidacloprid, indoxacarb, isofenphos, lufenuron, malathion, metaldehyde, methamidophos, methidathion, methomyl, methoprene, methoxychlor, monocrotophos, methoxyfenozide, nithiazin, novaluron, oxamyl, parathion, parathion-methyl, permethrin, phorate, phosalone, phosmet, phosphamidon, pirimicarb, profenofos, pymetrozine, pyridalyl, pyriproxyfen, rotenone, spinosad, sulprofos, tebufenozide, teflubenzuron, tefluthrin, 35 terbufos, tetrachlorvinphos, thiacloprid, thiamethoxam, thiodicarb, thiosultap-sodium,

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tralomethrin, trichlorfon and triflumuron, aldicarb, oxamyl, fenamiphos, amitraz, chinomethionat, chlorobenzilate, cyhexatin, dicofol, dienochlor, etoxazole, fenazaquin, fenbutatin oxide, fenpropathrin, fenpyroximate, hexythiazox, propargite, pyridaben, tebufenpyrad; *Bacillus thuringiensis i*, *Bacillus thuringiensis* delta endotoxin, baculovirus, and entomopathogenic bacteria, virus and fungi.

- 19. The composition of Claim 18 wherein at least one additional biologically active compound or agent is selected from insecticide, nematocide, acaricide or biological agents in the group consisting of cypermethrin, cyhalothrin, cyfluthrin and beta-cyfluthrin, esfenvalerate, fenvalerate, tralomethrin, fenothicarb, methomyl, oxamyl, thiodicarb, clothianidin, imidacloprid, thiacloprid, indoxacarb, spinosad, abamectin, avermectin, emamectin, endosulfan, ethiprole, fipronil, flufenoxuron, triflumuron, diofenolan, pyriproxyfen, pymetrozine, amitraz, *Bacillus thuringiensis*, *Bacillus thuringiensis* delta endotoxin and entomophagous fungi.
- 20. A method for controlling an invertebrate pest comprising contacting the invertebrate pest or its environment with a biologically effective amount of a compound of Claim 1 or a composition of Claim 17.